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The *Journal* attempts to assist in the understanding of the present and potential ability of accounting to aid in the recording and interpretation of international economic transactions. These transactions may be within a profit or non-profit environment. The *Journal* deliberately encourages a broad view of the origins and development of accounting with an emphasis on its functions in an increasingly interdependent global economy and welcomes manuscripts that help explain current international accounting practice, with related theoretical justifications and identify criticisms of current practice. Other than occasional commissioned papers or special issues, all the manuscripts published in the *Journal* are selected by the editors after the normal refereeing process.

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The International Journal of Accounting

International Auditing Research: Current Assessment and Future Direction

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Key words: International auditing practices; International auditing research; Harmonization; Multinationals; International accounting and auditing standards

Abstract: Despite the need for research in the field of international auditing, a review of publications in English-language journals and periodicals over the 10-year period 1978-1987 reveals that very little research, especially in theory-building and empirical testing, has been published. In addition to the obstacles of cost, data availability, and language, more fundamental obstacles to international auditing research are identified. These include the lack of a theory or framework of international auditing, the failure to understand how cultural differences affect the audit process, and the lack of international research in accounting doctoral programs. In an effort to improve this situation, several broad research areas related to the important issue of the harmonization of international auditing standards are identified and recommendations are made on the possible role of international organizations in stimulating research in international auditing.

In recent years there have been several assessments of academic research in international accounting. In 1979, Mueller presented a broad international review of academic research in this area.[1] Later, the International Accounting Section of the American Accounting Association published an annotated bibliography of international accounting research for the 10-year period 1972-1981.[2] In a narrower study in 1983, Gray evaluated international academic research in a specific country – the United Kingdom.[3] Most recently Bindon and Gernon in 1987 reviewed international accounting research. None of these studies addressed research in international auditing, and Agami and Kollaritsch devoted less than 4 percent of their annotated bibliography to the topic of auditing.

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The purpose of this paper is to fill this void by

(1) examining the need for research in international auditing,
(2) reviewing the existing research in the field of international auditing published over approximately the last 10 years,
(3) postulating some reasons for the dearth of research in this field,
(4) suggesting possible directions for auditing research on the harmonization of international auditing standards, and
(5) recommending ways in which international organizations can stimulate more research in international auditing.

The Need For Research in International Auditing

Viewed broadly, international auditing encompasses the standardization or harmonization of auditing standards world-wide, the external and internal auditing of multinational companies, and the practice of auditing by multinational accounting firms. Forces in the world economy today are commonly agreed to be increasing the importance of international auditing and the need for the international harmonization of auditing standards. Among these forces are the increase in international trade and investment, the growth of multinational corporations, and the internationalization of the accounting profession. The U.S. Securities and Exchange Commission recently reported, for example, that world financial markets have increased by threefold in the last 10 years from $1700 billion in 1978 to $5000 billion in 1986; the United States's share of this market has dropped from 52 to 43 percent.[5]

Today, there are a score or more countries in which the average investor from another country can purchase shares of stock easily. Whereas, in the past, corporate takeovers, mergers, and consolidations were generally restricted to a particular country, the entire world is now the battleground in this high-finance war. Recently, the Japanese tire manufacturer, Bridgestone, and the French tire manufacturer, Michelin, confronted each other in a bidding war over a major U.S. tire manufacturer, Firestone Rubber Company, after the Italian tire manufacturer, Pirelli, withdrew. Although many factors, including the current low value of the dollar, aid this type of international competition, such transactions are undoubtedly facilitated by accounting and auditing standards that are easily understood and interpreted from country to country. Finally, concurrent with the growth of multinational corporations, large accounting firms are becoming more truly international rather than being a consortium of independent firms. In the last two years, Arthur Andersen & Co. was involved in a large merger in the Far East and two of the largest international firms, Peat Marwick Mitchell & Co. and KMG Main Hurdman, merged to form the firm of KMG Peat Marwick Main & Co.

The importance of auditing as a subject for international research has not been uniformly recognized. In 1976, the research agenda for auditing developed by a major international accounting firm included "establishment of uniformity across national boundaries" as one of the "four major areas of research" under the category of "development of generally accepted accounting principles", but the same objective for generally accepted auditing standards was not mentioned.[6] A symposium held in 1980 to "provide accounting researchers with a framework for viewing contemporary international accounting issues and to highlight promising avenues of future inquiry"[7] did not devote a single paper to the subject of international auditing and touched on auditing only tangentially in the papers delivered. However, in a comprehensive and systematic analysis of international accounting problems conducted by the International Accounting Section of the American Accounting Association,[8] international auditing problems were ranked third out of seven broad international areas considered in need of research (behind accounting standards and foreign exchange rates). When 88 specific problems were ranked by academics and non-academics in 14 countries, three auditing topics ranked in the top third in importance. These were:

(1) The possibility that an auditor's report may not be easily or properly interpreted by readers in another country because it is prepared on the basis of the auditing standards and uses accounting terminology of another country, or because different types of attestations are used in various countries which have different meanings (ranked third).

(2) The difficulty of determining the extent and competency of auditing performed by an auditor in another country, in part because of differing admissions and experience requirements for auditors (ranked twenty-third).

(3) Whether audit standards should be set by an international association or by local country associations (ranked twenty-seventh).

These international auditing problems all concern the interpretation of the work of the auditor from one country by an auditor of another country. For that reason, these problems raise questions of the interpretation, communication, and harmonization of international auditing standards. At approximately the same time that the International Acounting Section study appeared, a committee of the American Accounting Association concluded "that the widely acknowledged importance of the international accounting and auditing fields is at present not adequately reflected in... the quantity and quality of research applied to these fields".[10] Given the acknowledged need for auditing research, together with the apparent lack of attention to it, an assessment of the current status of research in international auditing almost 10 years later seems appropriate.

Review of Publications in International Auditing

To discover the publications that have included at least a reference to international auditing, a computer search was conducted of periodicals throughout the world for the 10-year period 1978-1987. To compensate for the inevitable omissions that occur in such a search, the study was augmented by a manual search of the standard academic journals from several countries. Articles which were clearly not research-oriented, such as anonymously attributed articles appearing in *Business Week, Forbes,* or *Fortune,* were then eliminated. The resulting bibliography, which consists of 96 citations, appears in Appendix A and each entry is briefly annotated for the benefit of the reader. An average of approximately 10 articles a year world wide were written. On a year-by-year basis, however, only one year in the last eight has contained more than 10 citations, as may be seen from the following figures:

Year	Number
1978	27
1979	14
1980	7
1981	9
1982	6
1983	4
1984	7
1985	11
1986	6
1987	5
Total	96

These citations are from the 37 journals and periodicals listed in Appendix B; i.e., an average of less than three articles per journal over the 10 year period. Undoubtedly, some international auditing research has been omitted, but these omissions would not significantly affect the conclusion that this is not a large output.

The small amount of auditing research is not the result of a lack of interest in auditing, *per se*. In the United States, for example, there has been a boom in auditing research since the initiative of a major funding effort for such research by the firm of Peat Marwick Main & Co. But as mentioned above, the firm's *Research Opportunities in Auditing* did not emphasize international auditing; the funding of research projects, as well as perhaps the submission of proposals, has reflected this lack of emphasis. Of the 32 research projects in progress listed in the annual report of the Peat Marwick Foundation, not one addresses an issue in inter-national auditing.[11] In major academic journals such as *Abacus; Journal of Accounting, Auditing and Finance; The Accounting Review;* and the *Journal of Accounting Research,* an increasing number of papers reporting auditing research have been published, but only seven articles in these journals in the last decade addressed the subject of international auditing. The establishment of *Auditing: A Journal of Practice and Theory* in 1981 by the Auditing Section of the American Accounting Association is further evidence of the increased importance of auditing research, but since its beginning only one practice note and two major articles have addressed subjects in international auditing. Even in the *International Journal of Accounting,* published by the University of Illinois, only 13 articles on this subject have appeared since 1978. In Volume 1 of *Advances in International Accounting,* an annual devoted to the latest research in international accounting and first published in 1987, not one article was devoted to auditing.

The small number of research articles published in the 10-year period would not be a concern if these articles represented high-quality research of wide-ranging importance. In the next section, the issues of quality and importance of the published research are addressed.

Classification of International Auditing Research

Various models have been suggested for classifying research approaches of international studies. Mueller, for example, grouped international accounting research in the categories of descriptive, comparative, empirical, traditional normative, bibliographical-historical, and behavioral.[12] A simpler scheme used by Bindon and Gernon classified international accounting research as descriptive, comparative, analytical, and empirical under the assumption that "this classification provides the basis for forming general observations about the current level of development of research".[13] Wallace, on the other hand, used a more hierarchical classification scheme consisting of prescriptive, descriptive, conceptual, comparative, replicative, theory development, modeling, empirical testing, and multi-methods.[14] Choi and Mueller suggested a classification scheme based on the idea that "when knowledge clusters develop, they tend to reach successively higher levels of abstraction as the respective field of inquiry matures".[15] They identified six steps in this process of development:

(1) description of phenomena observed;
(2) systematic classification of observations according to a generally useful taxonomy;
(3) comparisons and analyses of the observed phenomena according to classes and subclasses;
(4) abstraction of general characteristics and principles from the analyses undertaken;
(5) determination of relatively few basic concepts underlying the evolving field of inquiry;
(6) theory (model) building and testing, congruent with the foregoing developmental step and aimed at predictive processes.[16]

What all these schemes have in common is that they begin with the description, reporting, and classification of real-world phenomena as they are perceived to exist and then move to a priori theory-building and construction of normative models based on fundamental assumptions and concepts. Finally, they evaluate empirically the validity of the theoretical models. In using these three broad areas – descriptive, theory-building, empirical testing – to classify the citations in the Bibliography, we find that almost all of the citations fall into the descriptive category.

Many of the studies cited are descriptive. Some are straightforward reports, such as those of Bartholomew (1979), which described the Fourth Directive of the European Economic Community; Gilling and Stanton (1978), which described changes in the structure of the auditing profession in Australia; and Chetkovich

(1979) and Sempier (1979), which described various aspect of the newly formed International Federation of Accountants. These reports of technical developments do not offer insights beyond the factual statements and cannot be considered research in the strictest sense. As Gray has said: "Knowledge that is already publicly available is by definition excluded from being considered as research, regardless of method, unless a fresh interpretation of existing data is provided or data from disparate sources are brought together and analyzed in a new form".[17]

Other descriptive articles, however, go beyond mere reporting by trying to draw conclusions from the observations. For example, McKinnon (1984) presented a perceptive study of the cultural constraints on audit independence in Japan, and Gress (1985) gave a historical perspective on the public accounting profession in selected Middle Eastern countries. Still other descriptive studies provided data about various countries, such as that of Bavishi (1985) which studied auditors in Africa and the Middle East. Other descriptive articles dealt with practices followed by two or more countries. Other studies are comparative in that they studied certain attributes among selected countries and drew conclusions on the reasons for various similarities and differences. Examples are the two Needles studies (1985, 1988), the first of which examined and compared auditing standards in 11 countries from various regions of the world and the second of which performed the same exercise for nine countries in the Far East. These studies drew conclusions that could become testable hypotheses in empirical studies. Although all of the above studies are useful and important in providing a better understanding of auditing as it is practiced throughout the world, they represent only the first stage of a major research effort in the field of international auditing. They provide the foundation for research to be conducted at the levels of theory-building and empirical testing.

None of the articles listed for the 10-year period addressed international auditing in a comprehensively theoretical way and very few articles addressed purely theoretical issues. One of the few exceptions is the study of Barlev and Friedman (1982), which developed a theoretical framework for the analysis and evaluation of the experience and formal education requirements for qualification as a professional accountant in various countries. This research, however, is only on the fringe of auditing in that it treated the qualifications of auditors. Some descriptive articles, as noted above, attempted to go beyond mere description to formulate broader generalizations that might provide testable hypotheses. However, these few attempts at theory-building obviously do not provide an adequate basis for the development of theory in the field of international auditing.

The number of empirical studies represented in the 10-year survey is also limited. Included in the category are studies that test hypotheses or gather data empirically for purposes of describing differences and similarities among countries. Both types suffer limitations. Examples of the first type of empirical study are those of Firth (1980), Amernic and Aranya (1982), and Firth (1985). These studies provided insight into the accounting profession in one country with the implication that there are lessons to be learned about practices that might be followed in other countries. For example, the first Firth study (1980) examined qualifications of audit reports in the United Kingdom and the second (1985) studied the determinants of audit fees in New Zealand. Likewise, the study of Amernic and Aranya (1982) examined auditor independence in Canada. Although these are interesting, hypothesis-testing empirical studies, each related to only one country without forming comparisons with other countries or discussing implications of the findings. They are international only in the sense that they were published in the United States and not in the countries under consideration. What is needed in international auditing research is more thoughtful attention to the implications of the microstudies across national borders.

The study by Hussein *et al.* (1986), on the other hand, surveyed partners of major certified public accountant (CPA) firms in the United States and in many other countries, exploring the extent and process of expansion of these large firms internationally. However, this paper suffers from the fact that it is essentially descriptive in that it neither presents a theory nor tests an hypothesis. An exception to the above criticisms is the study by Francis and Stokes (1986), which, in addressing the case of auditing pricing in Australia, attempted to determine whether the same parameters held in the Australian and in the U.S. cases. This is a study that transcended international borders and it stated and empirically tested generalizations. More of this type of empirical research is needed.

This brief summary of the research in international accounting from the last 10 years reveals that the situation is basically the same as that existing at the beginning of the decade. Most of the research in international auditing has been descriptive, with rare attempts to develop general frameworks and theory. The few empirical studies that have been conducted are descriptive surveys or studies limited to a single country which do not provide insights into solutions to the problems of international auditing.

Obstacles to Research in International Auditing

Why has the output in international auditing been so meager? Some of the reasons are apparent. First, the cost of obtaining data in the international field generally is very expensive. For example, the Center for International Financial Analysis and Research reported recently that a staff of about 30 MBAs is necessary to maintain a database of the financial accounting practices and disclosures of 4000 companies in 24 countries.[18] Second, in the area of auditing, obtaining data of the quantity and quality that will permit the type of statistical analysis which results in research publishable in the best journals is very difficult. Auditing does not have publicly available financial reports or financial markets that lend themselves to studies that will allow rigorous scrutiny. Third, although English is increasingly becoming the international language of business, there are still significant language barriers to the researcher in international auditing. For example, the financial reports used to report operations in the international financial markets are generally in English. However, the audits of these financial statements are often performed by individuals who do not speak English. This diversity of language is an obstacle in many kinds of research. For instance, consider the difficulties in stating an experimental case situation that is equivalent across cultures and evaluating the results of a behavioral research project involving cases in the study of internal controls in French, German, Japanese, Chinese, and English. In these circumstances, the difficulties of conducting auditing research across international borders is often insurmountable. However, as important as these reasons are for the lack of research in international auditing, they can be overcome by devotion of sufficient resources by the sponsoring organization and by motivation on the part of individuals. For example, multinational businesses and accounting firms can work with international organizations to provide access to data and people.

There are other, more fundamental reasons that need to be addressed. The first of these is the lack of a theory or general framework of international auditing. The survey of publications over the last 10 years shows that there has been no comprehensive effort to form theories or generalizations in international auditing. Without research that raises issues and provides a focus, further study beyond that which gives simple descriptions, comparisons, and analyses is not properly motivated. May and Sundem emphasized the importance of this point in the formulation of accounting policy decisions: "In principle, policy makers should be able to trace the implications of any given policy alternative through each link in the process. In practice, of course, this is hardly possible to any satisfactory degree because of the lack of a comprehensive and cohesive theory or set of theories descriptive of the behavior of the process."[19] This statement is equally applicable to the area of international auditing. When there are no a priori reasons why events, standards, controls, techniques, and other auditing concepts should be related among countries, there can be no reason to conduct hypothesis-testing empirical studies.[20]

A second fundamental reason for the lack of international auditing research is the presence of cultural differences among countries and the difficulty of assessing the impact of these differences on the audit process. Nobes is correct when he fears that "commentators underestimate the problem when the complain of too much descriptive work (in international accounting). The real problem in international accounting is much worse: too much *inaccurate* descriptive work".[21] Cultural differences, even among Western countries, make it inherently difficult for the researcher to expand meaningfully beyond his or her national boundaries. This difficulty could be overcome by support of research that extends behavioral and decision-making research done within a particular country such as the United States to other countries so that comparisons among cultures can be made. For instance, research in auditor judgment involving materiality, internal control, and audit procedures could be extended to other countries.

A third fundamental reason for the lack of international auditing research is the lack of emphasis on this subject in most doctoral programs. With some notable exceptions, few faculties conduct theoretical and empirical research in international auditing at major Ph.D.-granting institutions, as is shown by the lack of publications in this field in leading journals. As a result, few graduate students are interested in research in international auditing. This is a circle that is not easily broken. In addition, because of the cost of such research and the unavailability of data mentioned above, only the bravest students at major universities attempt the field of international accounting or auditing. Those who do tend to undertake the "safe" market studies, as is shown by the number of studies on the effects of FASB Statement No. 52 on accounting for foreign exchange transactions.

Future Directions for Research in International Auditing

The preceding discussion has been critical of the extent and nature of research in international auditing. Despite the obstacles to research, many potentially important subjects of research in international auditing could be addressed with proper support and effort. For example, an issue that most authorities identify as being one of the most important facing the international profession today and that is very high on the agenda of the International Federation of Accountants is the harmonization of auditing standards. To illustrate how this important issue could be addressed through research, five research questions are identified below that relate broadly to harmonization.

One potential research area involves the question of how much influence the harmonization of auditing standards at the macro level should have at the micro level. At the micro level, the nationalistic ego of most countries requires auditing standards to reflect the unique characteristics of the particular country, environment, and culture. This argument seems to prevail both for developed and developing countries. For example, countries in the European Economic Community are finding it difficult to comply with the Eighth Directive because of the long-established legal, economic, and social traditions within each country. On the other hand, developing countries are resisting international standards on the grounds that Western practices are not relevant to their own economies. At the macro level, there is pressure from the international financial markets for more uniformity of reporting and auditing. Clearly, companies operating in these international financial markets, regardless of whether they are from a developed or developing country, must meet certain international standards. This conflict between the macro and micro levels poses some interesting research questions. First, can two sets of standards, one for national use and one for international use, coexist; and second, to what extent must national auditing standards comply with international auditing standards? For instance, international investors have a keen interest in relatively few Far Eastern companies. Usually the companies of interest are listed on stock exchanges and are audited by international accounting firms with a high degree of conformity to international standards. Nonetheless, many more companies are audited by local firms that may not meet the international standards. In Singapore, perhaps 90 percent of the firms listed on the stock exchange are audited by international firms, but among nonlisted firms, fewer than 20 percent are audited by international firms. These ratios hold for other countries, such as Hong Kong, Korea, and Taiwan, and may be even more exaggerated in less well-developed countries, such as Malaysia and Indonesia.[22] The more important need may be to improve auditing standards within the countries. In other words, improving auditing standards within the countries may be more important than harmonizing those standards with the rest of the world.

Another potential research issue is whether the movement to harmonize auditing standards can be equated with an improvement in auditing practices in the countries which adopt these standards. In other words, does the form of the standards conform with the substance of the audit practice? A possible outcome of the harmonization process is that each country will adopt international standards but will not implement or apply the standard in the manner anticipated by external users of the financial information. For example, despite similar definitions of independence in many countries, very different rules are observed on acceptable relationships in the areas of loans, financial interest, choice of auditor, and prohibited activities. In many countries, the wording of the standard audit report is similar to the form recommended in the International Auditing Guidelines, yet great differences can exist in the auditing standards that underlie the reports. Research which compares auditing practices in different countries is essential to substantive harmonization of international standards.

A third and related research issue is the investigation of differences in the application of similar auditing practices that result from cultural differences. Even if practices conform to international standards and are observed in a conscientious manner, international differences in their application may exist, for example, in how the study and evaluation of internal control is conducted, how certain types of audit evidence is evaluated, what constitutes adequate sample sizes, and what are appropriate thresholds for materiality. Research is needed to explore the impact of these differences on the risk and reliability of the audit. The 1985 Amsterdam Conference on Accounting and Culture and the devotion of a major part of the 1986 Annual Meeting of the American Accounting Association to the theme of accounting and culture[23] were important initiatives.

Fourth, do the existing variations in the qualifications of auditors cause variations in the quality of audits? The International Federation of Accountants has issued education guidelines for entry-level auditors, but there is little conformity with these guidelines. Many differences are apparent in the education, experience, and examination of entry-level auditors.[24] Therefore, will audits prepared under similar standards but by differently prepared auditors result in the same quality of audit?

Finally, although harmonization is achieved in form through the adoption of international auditing standards promulgated by IFAC, and is achieved in a more substantive way through the world-wide organizations of the international accounting firms, a better knowledge of the process by which audit technology is transferred throughout the world will aid in an understanding of the ways in which substantive harmonization can be achieved. The interactions of international organizations and companies with domestic educational systems, regulatory bodies, and economies clearly serve to define the level of harmonization of audit practice in a given country with international standards. However, we need to know how these interactions take place, how much interaction is necessary, and how they can be facilitated. Research directed at these questions would advance the process of harmonization.

Summary and Future Actions

The survey of publications in journals and periodicals over the 10-year period 1978-1987 reinforces the need for research in the field of international auditing that focuses on theory-building and empirical testing. Very real obstacles of cost, data availability, and language exist, but more fundamental obstacles, such as the lack of a theory or framework of international auditing, the failure to understand the effects of cultural differences on the audit process, and the lack of international research in doctoral accounting programs, are potentially more serious. As an example of possible future directions of research in international auditing, several research questions related to the harmonization of international auditing standards were identified.

To further the goal of increasing the amount of quality research in international auditing, international organizations must initiate co-ordinated actions to reduce the practical and fundamental obstacles. For example, a co-operative effort among international academic accounting organizations (such as the European Accounting Association (EAA) and the International Accounting Section (IAS) of the American Accounting Association) to work with the International Federation of Accountants (IFAC), the major CPA firms, and other institutions to fund research projects in international auditing would address the cost issue directly. Specifically, Peat Marwick Main & Co. could make a special effort to attract international proposals for its auditing research program, or, alternatively, a jointly sponsored research program could be established to support research in this field.[25] To address the obstacle of data availability, the IFAC, perhaps working with major international accounting firms and other international accounting organizations, could sponsor the formation of a database of auditing practices throughout the world that would be available to academic researchers. The availability of funds, the development of a database, and the identification of international auditing as a priority research area would draw academic scholars from major universities into this field.

In addition, academic organizations could take positive initiatives to address the fundamental obstacles to research in international auditing and thereby increase theoretical and empirical research in international auditing. Among these initiatives are the following:

(1) The programs of the organizations should give priority to increasing research. For example, the IAS formed special committees in 1987-1988 to address the research issues, obstacles, and opportunities in four areas, including international auditing. These committees will report their findings on a panel sponsored by the IAS at the American Accounting Association meeting in August 1988. Similarly, the EAA is engaged in developing a conference, to be held in 1989, on the implementation of the Eighth Directive. As a further step in this process, joint research conferences among the IAS, EAA, and other international academic organizations should be developed.

(2) To address the cultural and language obstacles to research, cross-memberships in national academic organizations need to be encouraged. It is especially healthy, for example, that approximately 10 percent of the

membership of the EAA are U.S. members, and approximately 10 percent of the 900 members of the IAS are from Europe. Another 30 percent are from other countries of the world. This interaction should lead to joint research among scholars from different countries.

(3) Direct action by organizations, such as the EAA and the IAS, is also needed to persuade leading academic researchers at Ph.D.-granting institutions in other areas of accounting to undertake important research projects in international accounting and auditing. This is especially important in auditing, where dramatic advances in research methodologies applied to domestic auditing issues can now be applied to international research issues.

(4) There needs to be a doctoral consortium in international accounting in the United States for Ph.D. candidates who have not already chosen their dissertation topics, which would acquaint these students with the possibilities of international research. The consortium should include faculties which are not already involved in international research as well as those which are. The EAA has established this type of consortium to which U.S. students are invited. A similar step needs to be taken in the United States.

(5) As there appear to be ample outlets for descriptive research in international accounting and auditing, a high-quality academic journal needs to be established that emphasizes theory-building and empirical research in the field of international accounting. The *Journal of International Business Studies* took this approach approximately 10 years ago and has since transformed the research in the area of international business from descriptive to empirical hypothesis-testing.

If international professional and academic organizations would promote high-quality research in international auditing now by taking positive actions to overcome the practical and fundamental obstacles to such research, important issues, such as the harmonization of auditing standards, will be better understood and the results will lead ultimately to an improved international financial system.

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Discusses the need for co-operation between external and internal auditors and directors so that proper control of organizations, which will lead to greater efficiency, economy and effectiveness, will be exercised.

Bradt, J.D. "The Foreign Corrupt Practices Act and Internal Auditor." *Internal Auditor,* August 1979, 15-20.
Discusses the effect of the Foreign Corrupt Practices Act on internal auditors.

Brenner, V.C. "Education: An International Comparison." *Internal Auditor,* December 1985, 24-27.
Comparative study of the formal internal auditing educational programs in the United States with those in the United Kingdom and Australia.

Buckley, J.W. and P.R. O'Sullivan. "International Economics and Multinational Accounting Firms." *The International World of Accounting.* London: Arthur Young Professors' Roundtable, 1980, 115-137.
Discusses the international character of public accounting firms and the increasingly critical scrutiny of them by foreign governments and some national professional organizations.

Burne, M. "Covering the Cost of Director Liability." *International Management,* May 1979, 35-37.
Discusses the increased risk experienced by directors and corporation officers of being held personally liable by law for the results of their actions as managers.

Burton, R.W., R.A. Gordon and A.C. Newman. "International Examination Issues – A Survey of Various Countries." *Tax Executive,* Spring 1986, 213-227.
Summarizes significant national tax examination issues in various countries. Where applicable, steps are suggested to minimize the risks associated with the examination. Countries include Belgium, Canada, France, West Germany, Italy, Japan, Latin American countries, Luxembourg, Singapore, Switzerland, the United Kingdom and the United States.

Cardon, R.C.A. "New Dimensions in Modern Government Auditing." *International Journal of Government Auditing,* April 1981, 7-10.

Carmichael, D.R. "International Harmonization of Auditing Standards." *Comparative International Auditing Standards.* Sarasota, FL: American Accounting Association, 1985, 165-182.
Discusses the possibility of achieving a co-ordinated international accounting profession with harmonized standards.

Chetkovich, M.N. "The International Federation of Accountants: Its Organization and Goals." *The International Journal of Accounting Education and Research,* Fall 1979, 13-20.
Discusses the history, strengths, weaknesses and goals of the International Federation of Accountants (IFAC).

Chetkovich, M.N. and J.P. Cummings. "World Accounting Enters a New Era." *Journal of Accountancy,* April 1978, 52-61.
Discusses the IFAC's development of a 12-point program to guide its efforts over the next 5 years. One of the major points concerns the need to develop statements that serve as guidelines for international auditing practices.

Christie, H. "Italy – Planning for the 1980s." *The Accountants' Magazine,* August 1978, 343-344.
Discusses Italy's accounting legislation, which includes the Consob law requiring audit of publicly traded companies and regulation of corporate accounting and reporting.

Clowes, A.D. and G.C. Fowler. "Auditing the Auditor." *CA Magazine,* June 1978, 47-51.
Discusses deficiencies in the present auditing system with regard to re-establishing credibility with the public by setting up effective self-regulation and helping firms set up quality control.

Clutterbuck, D. "Made in Space: Launching Industry into Orbit." *International Management,* September 1978, 18-21.
Explores the possibilities of manufacturing goods in space and the many opportunities for various applications of technology.

Coppock, R. and M. Dierkes, "Europe Tries the Corporate Social Report." *Business and Society Review,* Spring 1978, 21-24.
Describes the increased importance attached to the idea of corporate social responsibility. Uses the West German experience as an example, and cites examples from France and Norway.

Corsini, L., R. Pawliczek and A.K. Weinstein. "The Big Eight in Europe." *The International Journal of Accounting Education and Research,* Spring 1978, 57-71.
Analyzes the organizational structures used by the "Big Eight" accounting firms in Europe and seeks to identify the operational impact of these structures.

Creamer, A.B., III. "Auditing Beyond U.S. Shores: What the U.S. CPA Should Know." *Journal of Accountancy,* November 1987, 85-96.
Description of (SAS) 51, which provides guidance to auditors engaged to report on a U.S. entity's financial statements, prepared in conformity with another country's generally accepted accounting principles, for use outside the United States.

Dahmash, N.H. "Public Auditing Developments in the Arab States: A Comparative Study." *The International Journal of Accounting Education and Research,* Fall 1982, 89-114.
Comparative study of the extensive and intensive use of economic planning as a means of achieving economic development in the Arab states. Examines the challenge it presents for the highest-level audit institutions in these countries to play a more active role in determining whether government expenditures are economical.

Dykxhoorn, H.J. and K.E. Sinning, "The Independence Issue Concerning German Auditors: A Synthesis." *The International Journal of Accounting Education and Research,* Spring 1981, 163-181.
A synthesis of discussions of the independence issue concerning German auditors. Reviews and discusses the relevant German accounting literature and German independence regulations.

Dykxhoorn, H.J. and K.E. Sinning. "Wirtschaftsprüfer Perception of Auditor Independence." *The Accounting Review,* January 1981, 97-105.
Discusses the results of a survey conducted to ascertain the perceptions of German auditors (Wirtschaftsprüfer) concerning auditors' independence.

Ehrensperger, P. and J.P. Pfister. "The Swiss Banking System." *Arthur Andersen Chronicle,* January 1978, 26-33.
Description of Switzerland's political structure and local, regional, and international business needs and how they are reflected in the types of institutions that make up the Swiss banking system. Charts and graphs are also presented.

Eichenseher, J.W. "The Effects of Foreign Operations on Domestic Auditor Selection." *Journal of Accounting, Auditing and Finance,* Spring 1985, 195-225.
Considers the effect of foreign operations on the selections of domestic auditor by U.S. corporations.

Elliott, R.K. "Unique Audit Methods: Peat Marwick International." *Auditing: A Journal of Practice and Theory,* Spring 1983, 1-12.
Describes the major ways in which the audit approach of Peat Marwick International differs from that of other firms.

Emmanuel, C.R. and S.J. Gray. "Segmental Disclosures by Multibusiness Multinational Companies: A Proposal." *Accounting and Business Research,* Summer 1978, 169-177.
Discusses the proposal for organizational structure and internal control systems disclosure and audit which could lead to a better analysis of business.

Englebert, R. "Auditor General Makes It a Century." *The Accountant,* December 14, 1978, 806-807.
Discusses the observations of Mr. James J. MacDonnel, FCA, in the 100th annual report of the Auditor General of Canada, on the widespread lack of regard for economy and efficiency in the operations of the government.

Englebert, R. "Challenge of the 1980s Canadian Institute's Annual Conference." *The Accountant,* October 18, 1979, 541-542.
Discusses the inadequacy of cost-benefit study of existing government programs. Recommends a comprehensive, cyclical auditing plan as the wiser approach.

Fanning, D. "How Slow are the Auditors in Britain?" August 1978, 44-48.
Discusses the time lag before balance sheet date and date of the auditor's report in Great Britain in relation to those in other countries.

Fargher, J.S.W., Jr. "Financial Management of Defence Codevelopment and Coproduction Programs." *National Contract Management Journal,* Summer 1982, 6-17.
Discusses the problems associated with the management of several defense-related programs.

Firth, M. "A Cross-Sectional Analysis of Qualified Audit Reports." *The International Journal of Accounting Education and Research,* Spring 1980, 47-59.
Cross-sectional analysis of qualified audit reports, two major types of which are encountered in Britain – those relating to noncompliance with Statements of Standard Practice and those relating to uncertainties.

Firth, M. "An Analysis of Audit Fees and Their Determination in New Zealand." *Auditing: A Journal of Practice and Theory,* Spring 1985, 23-37.
Examines the setting of audit fees in New Zealand, comparing the results with those from the United States and Great Britain.

Francis, J.R. and D.T. Simon, "A Test of Audit Pricing in the Small-Client Segment of the U.S. Audit Market." *Accounting Review,* January 1987, 145-157.
Presents additional evidence on product differentiation by "Big Eight" accounting firms in the small-client segment of the U.S. audit market.

Francis, J.R. and D.J. Stokes, "Audit Prices, Product Differentiation, and Scale Economies: Further Evidence from the Australian Market." *Journal of Accounting Research,* Autumn 1986, 383-393.
Presents further evidence from the Australian market on audit prices, product differentiation and scale economies. Attempts to reconcile the contradictory findings of Simunic and Francis on audit pricing by "Big Eight" and non-"Big Eight" accounting firms.

Garner, M.R. "The White Paper on Nationalized Industries: Some Criticisms." *Publica Administration,* Spring 1979, 7-20.

Garner, S.P. "Some Impressions of the Two World Congresses on Accounting in Germany." *The Accounting Journal,* Spring 1978, 340-343.
Discusses the stress placed by the Fourth International Conference on uniform accounting standards and standardized accounting education.

Gartenberg, M. and R.F. Randall, "General Motors Gears Up for the World Market." *Management Accounting,* June 1979, 13-16.
John R. Edman, vice-president in charge of the financial staff at GM, discusses the financial aspects of integrating the firm's international operations with the North American group.

Gilling, D.M. and P.J. Stanton, "Changes in the Structure of the Auditing Profession in Australia." *Abacus,* June 1978, 66-80.
Presents the detailed results of a study of the structure of the auditing profession in Australia and the changes that occurred in that structure during the years 1971-1976.

Goerdeler, R. "International Practice: Auditing Standards and Quality Controls." *The International World of Accounting,* 1980, 155-176.
Discusses problems of developing standardization of auditing practice and quality control over that practice across national borders and examines the different procedures and approaches used by the accounting professions in various countries.

Gray, S.J. and L.H. Radebaugh, "International Segment Disclosures by U.S. and U.K. Multinational Enterprises: A Descriptive Study." *Journal of Accounting Education,* Spring 1984, 351-360.
Discusses the increased concern in recent years over corporate accountability and disclosure resulting from the increased number of multinational enterprises.

Gresham, N.K. "Planning Audit Coverage." *Journal of Systems Management,* May 1984, 29-32.
Describes planning audit coverage using the perspective of Omark Industries, a manufactur ing company with world-wide operations. Discusses the determination of appropriate evaluation factors.

Gress, E.J. "Public Accounting in Selected Middle East Countries: A Historical Perspective." *The Recent Accounting and Economic Developments in the Middle East.* Urbana, IL: University of Illinois at Urbana-Champaign, 1985, 167-176.
Discusses the emergence and development of the public accounting and auditing profession in selected Middle Eastern countries.

Gul, F.A. and T.H. Yap, "The Effects of Combined Audit and Management Services on Public Perception of Auditor Independence in Developing Countries: The Malaysian Case." *The International Journal of Accounting Education and Research,* Fall 1984, 95-107.
Empirically investigates the effects of combined audit and management consulting services by public accounting firms on a sample of the Malaysian public.

Hamilton, J.R. "The International Consortium on Governmental Financial Management – Organization, Goals and By-laws." *Government Accountants Journal,* Winter 1980-1981, 27-31.
Presents the foundation, organization, membership requirements and the benefits of membership in the International Consortium on Governmental Financial Management.

Hardman, D.J. "Government Auditing in the South Pacific." *International Journal of Government Auditing,* April 1984, 11-12.
Discusses the differences between types and methods of public sector auditing among the 11 microstates of the South Pacific islands.

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Discusses the use of the computer in auditing, which can be more cost effective and can allow employment of more sophisticated auditing tools and the best auditing techniques.

Humble, J. "A Practical Approach to Social Responsibility." *Management Review,* May 1978, 18-22.
Identifies and describes three social crises affecting business, which include identity, authority and integrity, all of which must be managed with skill for survival and profitability.

Jackson, T.P.D. and D.E. Sheehy, "Election Expenses Go Public." *CA Magazine,* July 1978, 22-28.
Discusses the requirement by Canada for its political candidates to disclose all donors of over $100, file financial statements reported by an auditor, and limit election expenses to increase financial credibility.

Jamieson, D. "Professional Accountancy Training in the Civil Service." *Management Services in Government,* February 1978, 39-41.
Identifies organizations which have programs to train civil service accountants. These organizations include the Royal Army Pay Corps, chartered accountants, and exchequer and audit departments.

Jayson, S. "IFAC's Traveling Salesmen." *Management Accounting,* October 1986, 22-25.
Discusses the organization of the IFAC, established in 1977 to develop a co-ordinated world-wide accounting profession with harmonized standards. Although the organization has issued 42 international guidelines on auditing practice, it has no enforcement powers. The IFAC works closely with the IASC, which actually promulgates international accounting standards.

Johnston, D.J., W.M. Lemon and F.L. Neumann, "The Canadian Study of the Role of the Auditor." *Journal of Accounting Auditing and Finance,* Spring 1980, 251-261.
Presents the report of the Canadian Special Committee to Examine the Role of the Auditor and compares and contrasts its similarities and differences with the Commission on Auditors' Responsibilities in the United States.

Jurinski, J.J. "A Primer on the Unitary Business Concept." *CPA Journal,* September 1986, 52-64.
Describes the unitary tax method of calculating income for state tax purposes under which businesses can be required to report total taxable income, which is then apportioned.

Kanaga, W.S. "International Accounting: The Challenge and the Changes." *Journal of Accountancy,* November 1980, 55-60.
Predicts the future of the international practice of accounting and auditing. Briefly examines the background of accounting's international character.

Kelley, T.P. and D.V. Roscetti, "International Boycotts: Implications for Auditing." *Journal of Accountancy,* April 1978, 43-48.
Discusses the Tax Reform Act of 1976, which imposes substantial reporting requirements and denies certain tax benefits for participating in or co-operating with international boycotts.

Kullberg, D.R. "Management of a Multinational Public Accounting Firm." *The International Journal of Accounting Education and Research,* Fall 1981, 1-5.
Discusses the management of a multinational accounting firm such as Arthur Andersen & Co.

Lee, M. "The International Auditor." *Internal Auditor,* December 1978, 43-47.
Discusses the special problems of internal auditing for the multinational company. These problems can best be solved through the employment of international auditors.

Luck, W. "The Impact of International Standards and other Developments on the German Accounting Profession." *The International Journal of Accounting Education and Research,* Fall 1982, 45-56.
Discusses the development of auditing as an academic discipline and the work of the German auditing profession, which has recently been affected by the increasing importance of questions of international accounting and auditing.

Mann, R.W. and D.H. Redmayne. "Internal Auditing in an International Environment." *Internal Auditor*, October 1979, 49-54.
Summarizes the differences between international accounting procedures and those followed in the United States, including differences in the standard chart of accounts, income statement and balance sheet headings, statutory audit and accounting requirements, legal structures, local laws, and banking practices.

McKinnon, J. "Cultural Constraints on Audit Independence in Japan." *The International Journal of Accounting Education and Research*, Fall 1984, 17-43.
Examines the contemporary operation of the corporate audit function in Japan from the perspective of audit independence. Describes the complete accounting cycle for profit-making enterprises in socialist countries.

Moonitz, M. and E. Stamp. "International Auditing Standards – Part I." *CPA Journal*, June 1982, 24-32.
Summarizes the authors' views on independence and presents findings on enforcement of standards in many parts of the world. Discusses the variety of enforcement and related compliance mechanics and the significant challenge and opportunity presented in the establishment and use of international standards.

Moonitz, M. and E. Stamp. "International Auditing Standards – Part II." *CPA Journal*, June 1982, 48-53
Presents conclusion of above study.

Motekat, J.K. "International Accounting: The Accounting Cycle for a People-Owned Enterprise." *The Woman CPA*, April 1979, 16-23.
Describes the complete accounting cycle for profit-making enterprises in socialist countries through the use of the experience of the People-owned Enterprise (POE) in Weimar, East Germany.

Needles, B.E. Jr. "Auditing Standards in the Far East: An Overview." *Accounting and Economic Problems of Contemporary Importance to the Far East.* Urbana, IL: University of Illinois at Urbana-Champaign, 1985, 65-96.

Needles, B.E. Jr. "Comparative International Auditing Standards: An Overview." *Comparative International Auditing Standards*, Sarasota, FL: American Accounting Association, 1985, 3-34.

Nobes, C.W. "An Empirical Analysis of International Accounting Principles: A Comment." *Journal of Accounting Research*, Spring 1981, 268-270.
Investigates the reliability of Werner G. Frank's "An Empirical Analysis of International Accounting Principles", and its appropriateness for statistical analyses.

Ola, R.O. "Two Commonwealth Watchdogs: A Comparative Study of the Evolution and Position of the Auditors-General of Nigeria and Canada. *International Review of Administrative Sciences*, 1979, 35-40.
Examines the evolution of the office in two Commonwealth countries (Canada and Nigeria) and the present functions and practices of the two offices.

Owles, D. "International Auditing Profile." *The Accountant*, December 1, 1983, 11.
Discusses the University of Connecticut Business School's recent world-wide study of auditing entitled "Who Studies the World?", commissioned by five large accountancy firms, each with international operations.

Parker, L.D. "An Historical Analysis of Ethical Pronouncements and Debate in the Australian Accounting Profession." *Abacus*, September 1987, 122-140.
Traces the forerunners of the present-day ethical rulings of the Institute of Chartered Accountants in Australia and the Australian Society of Accountants from the earliest professional Australian accounting bodies of the 1880s and 1890s.

Pearce, P.A. and W.T. Thornhill. "What are the Lessons of Quality-Assurance Review?" *Internal Auditor*, February 1985, 34-37.
Discusses peer review and quality assurance reviews as they relate to the Foreign Corrupt Practices Act of 1977.

Pereira, A.L. "Quality Audits and International Standards." *Quality Progress*, January 1987, 27-29.
Discusses the quality audit, a proven tool for identifying areas of a quality system in which improvements can be started, as guided by the requirements stated in national or international quality assurance standards.

Pomeranz, F. "Innovative Auditing Techniques." *Comparative International Auditing Standards*, Sarasota, FL: American Accounting Association, 1985, 183-193.
Discusses innovative auditing developments throughout the world.

Pomeranz, F. "Prospects for International Accounting and Auditing Standards – The Transnationals in Governmental Regulations." *The International Journal of Accounting Education and Research*, Fall 1981, 17-19.
Study based on survey results published by the OECD in 1980, reflecting a consensus on the part of a group of transnationals that accounting systems should be made comparable.

Rabbarts, A. "Planning the Publication of a Set of Annual Accounts." *Accountancy*, June 1978, 102-103.
An outline of the procedure of compiling the annual report from preparation of timetable to the annual meeting. A list of reports to be included is also offered.

Ricchiute, D.N. "Foreign Corrupt Practices: A New Responsibility for Internal Auditors." *Internal Auditor*, December 1978, 58-64.
Description of pronouncements affecting compliance with the Federal Corrupt Practices Act of 1977, which include SAS No. 17 on "Illegal Acts by Clients", and SEC's AST No. 242. Presents specific requirements on the nature and scope of controls and offers a model internal audit plan to ensure compliance.

Rotach, W.E. "International Auditing Guidelines." *CPA Journal*, April 1984, 66-67.
Provides a synopsis of the 12 guidelines approved by the International Auditing Practices Committee (IAPC), established in 1979 by the IFAC as a standing committee of the Council of IFAC with the responsibility and authority to issue drafts and guidelines on auditing.

Rueschhoff, N.G. "International Accounting and Auditing in the U.S. CPA Examination, 1917-86." *The International Journal of Accounting Education and Research*, Fall 1986, 25-32.
Discusses the need for additional classroom instruction in international accounting and auditing as shown by the increased demand for U.S. accountants to be proficient in international accounting.

Santocki, J. "Management Audit – A Job for the Accountant?" *Management Accounting*, June 1983, 36-38.
Presents the main findings of a recent research project sponsored jointly by the Institute of Cost and Management Accountants and the City of Birmingham Polytechnic. Establishes the meaning of management audit and examines the extent of its application.

Sempier, R.N. "The International Federation of Accountants: Operating Procedures and Current Progress." *The International Journal of Accounting Education and Research*, Fall 1979, 21-31.
Discusses the progress of the IFCA in fulfilling its objective – the development and enhancement of a co-ordinated world-wide accountancy profession.

Snell, D.M. "The International Auditing Practices Committee." *CA Magazine*, November 1979, 78-82.
Summarizes the responsibility given to the International Auditing Practices Committee (IPAC) on the issuance of exposure drafts and guidelines relating to generally accepted auditing practices and the form and content of audit reports.

Spoor, R.C. "Auditing the Small Company." *The Accountant*, September 21, 1978, 368.
Discusses the need for a reform of company law to enable proper company audits to be made, with benefit of limited liability.

Staats, E. "Comprehensive Auditing – Planning the New Approach for Century XXI." *Government Accountants Journal*, Spring 1979, 32-40.
Discusses the expansion of the scope and influence of auditing in decision-making, characterized by the realization by auditors that government at all levels is responsible for efficient delivery of service, that government auditors must work closely with internal auditors and government officials as well as legislators, and that strictly financial information is not sufficient in assessing government programs.

Staats, E. Government Auditing: An International Review." *International Journal of Government Auditing*, April 1979, 7-11.
Discusses the development of effective government auditing which results from co-operation between auditors in the country and foreign auditors.

Strenski, J.B. "The Communications Audit: Primary PR Measurement Tool." *The Accounting Journal*, Winter 1978, 17-18.
Discusses the planning and techniques used in the communications audit, a public relations tool used to evaluate communications effectiveness internally and externally.

Tai, B. "Requirements for Professional Accounting Examinations and Continuing Professional Education in Hong Kong: Some Significant Changes in Recent Years." *Accounting and Economic Problems of Contemporary Importance to the Far East*. Urbana, IL: University of Illinois at Urbana-Champaign, 1985, 219-228.
Discusses the requirements for professional accounting examinations and continuing professional education in Hong Kong and the significant changes in recent years.

Tantuico, F.S., Jr., "Problems in Adopting and Implementing Modern Auditing Techniques in Developing Countries." *International Journal of Government Auditing*, October 1980, 10-12, 17.
Discusses the problems associated with adopting modern auditing techniques in Third World countries.

Thorelli, H.B. "Management Audit and Social Indicators: The MNC Through the Glasses of the LDC." *Journal of Contemporary Business,* Winter 1978, 75-91.
Discusses the idea of economic performance and practices of multinational corporations (MNCs) in less-developed countries (LDCs) as well as the wider range of social indicators and the externalities which must be taken into account in the performance of a management audit.

Tipgos, M.A. "Potential Liabilities in International Accounting Practice." *Journal of Accountancy,* April 1981, 171-176.
Explores the answers to the questions "How can the U.S. accounting profession counteract the threat of legal liability associated with international practice?" and "To what extent are principal auditors liable if substandard work is performed by a foreign correspondent auditor?"

Wesberry, P., Jr., "Are International Standards Possible?" *Internal Auditor,* December 1978, 36-42.
Discusses the adaptation and acceptability as international standards of the Standards for the Professional Practice of Internal Auditing of the Institute of Internal Auditors.

Wittrock, K. "International Corporation in the Field of Government Auditing: The German Contribution." *International Journal of Government Auditing,* January 1983, 9-10, 14, 17.
Discusses assistance in government auditing, as provided by one government or organization to another, citing the experience of the Federal Republic of Germany as an example.

Woolf, E. "'High Quality' is the Essence of an Audit," *Accountancy,* March 1987, 78-79.
Discusses the 1984 U.K. Auditing Practices Committee Guideline, which recommended that accounting firms establish quality control procedures appropriate to their particular circumstances and communicate those procedures to all partners and professional staff.

Appendix B. Journals Having Articles With A Citation For International Auditing, 1978-1987

Journal	Citations
Abacus	2
Accountancy	5
Accountant (The)	4
Accountants' Magazine (The)	1
Accounting and Business Research	1
Accounting Journal (The)	2
Accounting Review	2
Arthur Andersen Chronicle	1
Auditing – A Journal of Practice and Theory	3
Banker (The)	1
Business and Society Review	1
Business Quarterly	1
CA Magazine	5
CPA Journal	4
Financial Executive	1
Government Accountants Journal	2
Internal Auditor	7
International Journal of Auditing	13
International Journal of Government Auditing	5
International Management	2

Journal	Citations
International Management	2
International Review of Administrative Sciences	1
International World of Accounting	2
Journal of Accountancy	5
Journal of Accounting, Auditing and Finance	2
Journal of Accounting Education and Research	3
Journal of Accounting Research	1
Journal of Contemporary Business	1
Journal of Systems Management	1
Management Accounting	3
Management Review	1
Management Services in Government	1
National Contract Management Journal	1
Publica Administration	1
Tax Executive	1
Woman CPA (The)	1
Other Monographs	7
	96

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2. A.M. Agami and F.P. Kollaritsch, *Annotated International Accounting Bibliography – 1972-1981* (Sarasota, FL: American Accounting Association, 1983).

3. S.J.Gray, "International Accounting: A Review of Academic Research in the United Kingdom," *The International Journal of Accounting* (Fall 1983) 15-42.
4. K.R.Bindon and H.Gernon, "International Accounting Research," *Advances in Accounting* (1987) 43-65.
5. *Internationalization of the Securities Markets* (Washington, DC: Securities and Exchange Commission, October 1987).
6. *Research Opportunities in Auditing* (New York: Peat Marwick Mitchell & Co., 1976) 147.
7. F.D.S.Choi, Ed., *Multinational Accounting: A Research Framework for the Eighties* (Ann Arbor, MI: UMI Research Press, 1981) xi.
8. G.M.Scott, *Eighty-Eight International Accounting Problems in Rank Order of Importance: A Delphi Evaluation* (Sarasota, FL: American Accounting Association, 1980). A summary of this project was presented by Scott in Choi, *Ibid.*
9. *Ibid.*, pp. 21-26.
10. American Accounting Association, *Report of the 1980-81 International Accounting and Auditing Standards Committee* (Sarasota, FL: American Accounting Association, 1981, mimeographed) 1-2.
11. *Annual Report* (New York: Peat Marwick Foundation, 1987) 18-19.
12. Mueller, *op. cit.*, pp. 83-85.
13. Bindon and Gernon, *op. cit.*, p. 44.
14. W.A.Wallace, "An Overview of Research in International Accounting and Likely Approaches to Future Inquiry," paper presented at the American Accounting Association/Price Waterhouse Research Forum in International Accounting, Dallas TX: (March 1986) 3-7; subsequently published in *Management International Review* (1987).
15. F.Choi and G.G.Mueller, *An Introduction to Multinational Accounting* (Englewood Cliffs, NJ: Prentice-Hall, 1978) 6.
16. *Ibid.*
17. Gray, *op. cit.*, p.17.
18. V.B.Bavishi, "International Accounting Differences and the Globalization of Capital Markets: Issues and Answers," unpublished paper presented at the International Seminar of Accounting at the University of Illinois at Urbana-Champaign, IL: (April 1988) 4.
19. R.G.May and G.L.Sundem, "Research for Accounting Policy: An Overview," *The Accounting Review* (October 1976) 756.
20. For an excellent overview, including references, of some of the issues in the development of a conceptual framework in the general area of international accounting, see "Conceptual Development" in F.Choi and G.G.Mueller, *International Accounting* (Englewood Cliffs, NJ: Prentice-Hall, 1984) 25-60.
21. C.Nobes, in a review of Choi, *op. cit., The Accounting Review* (April 1983) 464-465 (emphasis in original).
22. B.E.Needles,Jr., "Auditing Standards in the Far East: An Overview," in *Recent Accounting and Economic Developments in the Far East,* Ed. V.K.Zimmerman, (Champaign, IL: Center for International Research and Education in Accounting, 1988) 65-96.
23. The collected plenary session papers and discussants' comments are available in B.E.Cushing, Ed., *Accounting and Culture* (Sarasota, FL: American Accounting Association, 1987).
24. For an in-depth study of this subject, see B.E.Needles,Jr., "Standards for International Accounting Education: A Consideration of the Issues," in *Comparative International Accounting Education Standards,* V.K.Zimmerman and B.E.Needles,Jr., (Champaign, IL: Center for International Education and Research in Accounting, in press, 1988).
25. The recently announced (1988) program "Research Opportunities International Business Information" by the Peat Marwick Foundation holds the promise of meeting this need.

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The International Journal of Accounting

Stock Price Reaction to "Off-balance-sheet" Information: The Case of International Finance Subsidiaries

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Key words: International Finance Subsidiaries; Market reaction to "off-balance-sheet" information; Market efficiency

Abstract: This study examines whether "off-balance-sheet" information is reflected instantly in stock prices or whether the market responds to such disclosures in a delayed and gradual manner. The study builds on prior investigations of the issue of market efficiency. To avoid inappropriate classifications of events as either "good" or "bad" news, this study focuses only on strictly positive events: the establishment of an International Finance Subsidiary (IFS), and the time when the first issue was made by the IFS.

The analysis indicated that no significant market reactions occurred in the stock returns of apparent companies at the time an IFS was established or upon the subsequent issuance of Eurobonds by those subsidiaries. The results suggest that the market in this particular area is not efficient, at least in terms of international off-balance-sheet events.

Is off-balance-sheet information reflected instantly in the stock prices, or does the market respond to such disclosure in a delayed and gradual manner? This issue is of great interest and importance to the prospective investor: if the stock price reaction is not immediate, there might be a promising payoff from a study of off-balance-sheet transactions. If, however, the market is efficient in this respect, no one could expect to "beat" the market consistently using publicly available information[1] describing off-balance-sheet transactions. For example, suppose a firm increases its debt capacity by improving its borrowing channels so that it can now obtain more funds and at lower cost. Typically, this kind of event, by itself, does not have an immediate impact on the firm's earnings, nor does it have any immediate effect on any of the other balance-sheet items or financial ratios. If

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investors recognize immediately the positive promise imbedded in such information, however, the stock price of such a firm would increase without any delay. The less efficient the market is with respect to such information, the greater the potential for the investor to capitalize by carefully learning the off-balance-sheet information.

This study concerns the issue of market efficiency with respect to International Finance Subsidiaries (IFS) information.

Background

Numerous studies have investigated the issue of market efficiency.[2] Typically, "event study" methodology has been used to investigate the market reaction to financial disclosures such as earnings information releases, dividend announcements and other firm-specific occurrences. In such studies, the event in question has been classified as resulting in either "good" or "bad" news for the firm. The firm's stock returns were then examined for abnormal returns on or near the date of the event announcement to determine if it was possible to beat the market or whether the market reacted efficiently.

While this methodology may seem appropriate in principle, inherently it has several serious problems; in particular, the definition of what constitutes "good" versus "bad" news is often a judgment call on the part of the researcher. The issue becomes one of knowing a priori what the true "expected" event would have been in order to rank the actual event which has occurred in relative terms. For example, a reduction in dividends may be classified as bad news for the firm. However, if the market had anticipated that this particular firm was going to eliminate dividends completely, then the fact that the dividends are merely reduced rather than discontinued may in fact be good news for the market, thus resulting a positive market reaction. Similarly, if a firm reports that earnings increased 10 percent over the prior reporting period, researchers may regard this as good news. However, if the market had expected earnings to increase by more than 10 percent, a negative stock price reaction may be observed. Thus, it is obvious that an incorrect classification of events as good or bad news could seriously bias the empirical results of such tests of market efficiency.

In addition, many event studies rely on the Capital Asset Pricing Model (CAPM) as the theoretical basis for the calculation of the expected returns. As has been increasingly asserted in the literature, serious shortcomings relate to the use of the CAPM, largely owing to the simplifying assumptions necessary to make use of the model in an empirical setting, as well as difficulties in determining an appropriate proxy for the market portfolio.[3]

Our study's design avoids the potential problems discussed above. To avoid inappropriate classifications of events as either good news or bad news, we have studied only strictly positive events: first, the establishment of an International Finance Subsidiary (IFS), and second, the time when the first Eurobond issue was made by the IFS. As explained later in the paper, these two events are strictly "good news" for the parent firms involved, and thus no risk of judgment error is incorporated into the classification scheme of the study. Moreover, our methodology is not based on techniques which use the CAPM or any other market model, which also avoids the controversy regarding the specification of an appropriate market portfolio.

These off-balance-sheet events which occurred in an international setting were of great importance to the financing of their parent companies. Yet, because they did not take place domestically and perhaps were not as well communicated or understood as are other events which are also reflected directly in the body of the balance-sheet, they possibly did not receive a timely assimilation into the market. An added dimension to this study was made by introducing the concept of a "partially anticipated event": once an IFS was established, the second event of a Eurobond issuance was partially anticipated. The choice of the two successive events was made to capture the different degrees of market anticipation.

The analysis which follows indicates that no significant reactions occurred in the stock returns of the parent companies at the time of establishing IFS or upon the subsequent issuance of Eurobonds by the subsidiaries. The second section of this paper provides general background explanation of IFSs. The next section discusses the research methodology used and its results (with a more detailed analysis in the Appendix on page 27).

International Finance Subsidiaries

International finance subsidiaries have served as an effective means for US corporations to raise capital in the Eurobond market. An IFS may issue bonds without the interest payments being subject to various tax withholdings (of approximately 30 percent) normally required on certain payments to non-resident aliens.[4]

Although tax treaties with several countries provide reduced withholding rates, one of the most favorable situations available is found in the US-Netherlands tax treaty as applied to transactions occurring in the Netherlands Antilles. US firms were able to establish finance subsidiaries in the Netherlands Antilles which would issue Eurobonds to foreign investors. Typically, the subsidiary would then lend the proceeds to the US parent company at a slightly higher rate of interest. Interest payments from the IFS to investors are free of withholding tax in the Netherlands Antilles. The parent company is able to pay interest to the subsidiary free of any US withholding tax by virtue of the provisions of the US-Netherlands tax treaty. The subsidiary is taxed by the Netherlands Antilles at very low rates and only on the spread between the rates of interest received from the parent and that paid to bondholders.

The use of IFS become popular in the late 1970s and early 1980s as more and more companies began to take advantage of the savings which could be achieved by issuing bonds is certain foreign markets rather than in the United States. The interest rates in the Eurobond markets were generally lower than those in the US market; however, the interest withholding requirement was a substantial obstacle for those US firms who found it difficult to compete for the Eurobonds funds. Although establishing an IFS is not simple, and is time consuming and costly, the practice has been very useful. Data released by the US Department of the Treasury[5] reveal that during the period from 1978 to 1982, borrowings from such Netherlands Antilles subsidiaries rose more than tenfold from $2.5 billion to $27.3 billion. In response to this situation, and to encourage US firm competitiveness in foreign capital markets, the Tax Reform Act of 1984 repealed the 30 percent withholding requirement for certain types of portfolio interest paid to non-resident aliens on future bond issues.

The Empirical Study and Its Results

This paper examines daily stock returns at two dates each of which is unique in its informational content characteristic: the IFS date of incorporation and the first Eurobond issuance date. This allows an examination of the timing as the market reacted, first to incomplete good news in which the specific economic consequences and implications of the event have not yet been determined or revealed, and second, to a related event in which the economic consequences to the firm can be more accurately estimated. Such an investigation may also provide indications of the speed with which the market becomes aware of and reacts to events taking place outside the United States.

Forty-six US-based multinationals with IFS in the Netherlands Antilles were used in the study.[6] Only those firms with IFS in the Netherlands Antilles were included although finance subsidiaries were established in several other tax haven countries. The vast majority of such financing activity transpired in the Netherlands Antilles, due largely to sophisticated tax planning techniques which enabled firms to take advantage of the unique treaty provisions between the Netherlands and the United States. The financial sector of the Netherlands Antilles has evolved into a highly proficient network capable of servicing virtually all of the administrative needs of IFS, and thus served as an inducement to firms seeking tax haven subsidiaries to choose the Netherlands Antilles over other possible countries. The final sample group is given in Table 1.

The method of the present study is based on techniques suggested and used by Brown and Warner,[7] employing only daily stock returns without any market index. Daily stock returns from the Center for Research on Stock Prices (CRSP) database were obtained for each company in the sample for a time interval of 291 days. The event date was defined to be t_0, with the interval beginning 240 days before the event date and ending 50 days after this date. Thus, the timeline for each company consisted of days -240 to $+50$, with day 0 being the event date. The statistical significance of the abnormal returns is revealed by a "t-statistic" which is measured here by the ratio of the mean abnormal return at time t divided by its estimated standard deviation.

In addition to determining the t-statistic for the actual event day, $t = 0$, three larger intervals of time were also tested, to capture the possibility of market reactions occurring at slightly different times across firms. The first such interval was the period from $t = -120$ to $t = -2$, the second period was from $t = -1$ to $t = +10$, and the third from $t = +11$ to $t = +50$. Examining the periods leading to

Table 1. The Sample of International Finance Subsidiaries (IFS), Their Date of Incorporation and First Eurobond Issuance

IFS	Incorporation date	Eurobond issuance date
American Brands Overseas, N.V.	10/29/69	11/15/69
American Hospital Supply International Finance N.V.	9/7/77	10/15/77
American Motors Overseas Corp. N.V.	9/17/71	4/1/72
Armco Overseas Finance	10/27/69	12/1/81
Atlantic Richfield Overseas Finance	3/21/79	5/19/82
Avon International Finance	9/23/82	8/15/83
Beatrice Foods Overseas Finance N.V.	3/17/69	2/15/70
Beneficial Overseas Finance N.V.	5/18/79	7/15/79
Black and Decker Finance N.V.	7/28/82	9/1/82
Borden Overseas Capital Corp. N.V.	6/18/70	7/15/71
Burroughs International Finance N.V.	3/28/72	3/15/82
Carolina Power & Light Finance N.V.	2/5/82	4/15/82
Carrier International Finance N.V.	12/21/71	6/15/72
Carter Hawley Hale Overseas Finance N.V.	5/2/79	7/1/79
Caterpillar Financial Services Corp. N.V.	7/23/81	11/1/81
Cities Service Overseas Finance Corp. N.V.	9/15/81	9/21/70
City Investing Finance N.V.	6/26/82	5/1/77
Coca-Cola International Finance N.V.	9/16/82	10/1/82
Continental Illinois Overseas Finance Corp. N.V.	1/18/79	7/1/80
Cummins Overseas Finance N.V.	11/27/81	12/15/81
Digicon Finance N.V.	8/28/80	10/1/80
Dow Chemical Overseas Capital N.V.	11/22/74	12/15/76
Dresco Overseas Finance N.V.	9/23/82	10/1/82
Eaton Finance N.V.	6/17/80	1/15/81
Ensearch Finance N.V.	7/26/79	5/1/83
Fedders Capital N.V.	3/23/72	5/1/72
Ford Credit Overseas Finance N.V.	7/25/80	7/1/81
Ford Overseas Finance N.V.	5/5/80	5/15/80
Gearhart Finance N.V.	2/14/80	3/1/80
GFC International Finance N.V.	11/30/81	1/15/82
GMAC Overseas Finance Corp. N.V.	5/14/79	7/1/79
Gould International Finance N.V.	1/31/79	3/1/79
Harris International Finance N.V.	11/2/71	4/1/72
Monsanto International N.V.	4/3/70	5/15/70
Northwest Industries Finance Corp. N.V.	2/27/79	4/30/80
Occidental International Finance N.V.	1/3/78	6/1/78
Occidental Overseas Finance N.V.	1/12/76	7/1/76
Pengo Finance N.V.	9/19/80	12/1/80
Penny (J.C.) Overseas Finance N.V.	7/7/78	8/1/78
Planning Research International N.V.	11/27/69	12/15/69
Ralston Purina Overseas Finance N.V.	1/18/72	2/15/72
Sundstrand Finance International N.V.	7/20/70	6/1/77
Tenneco International N.V.	11/1/68	5/15/77
Transco International N.V.	6/2/77	12/1/80
TRW Overseas Finance N.V.	8/2/71	10/15/71
Walter (Jim) International Finance N.V.	10/31/80	1/15/81

the event, the period immediately surrounding the event, and the weeks following the date in question, instead of selected individual dates, increased the chances of uncovering any abnormal reactions which might have occurred. The results are given in Table 2.

As indicated in Table 2, no significant abnormal returns were noted for either group of events under study, for any of the intervals which were examined. These

Table 2. Analysis of Parent Corporations' Mean Adjusted Returns Around Their Unconsolidated IFS Incorporation and First Bond Issue Dates

Time-period (days)	IFS incorporation event	First bond issuance event
Pre-announcement period ($t = -120$ to -2)	−0.0002628 (−0.0846)	0.0002757 (−0.0821)
Announcement period ($t = -1$ to 10)	0.00061075 (0.1965)	0.0000063 (0.0019)
Announcement day ($t = 0$)	0.0002000 (0.696)	0.0006166 (0.1837)
Post-announcement period ($t = +11$ to $+50$)	0.0007634 (0.2457)	0.0001173 (0.0349)

t-Statistics are given in parentheses.
In our case for *t*-statistics to be significant at a confidence level of 95 percent, their values have to be at least 2.0000.

results may indicate that the actual market reaction either occurs slowly and gradually or perhaps that the reaction by the market does not occur until such time as the parent companies actually begin to borrow the Eurobond proceeds from their IFSs. Evidently, the information regarding off-balance-sheet events which occur in other countries, with an indirect delayed effect on the US parent companies, might take longer to assimilate into the market than would comparable events taking place domestically with an immediate direct-cash-flow effect.

Conclusions

This study investigated the market reaction to certain international off-balance-sheet events having a significant indirect positive effect on the profitability and debt capacity of US based multinationals. The analysis indicates that no immediate significant reactions occurred in the stock returns of the parent companies at the time of establishing IFSs or upon subsequent issuance of Eurobonds by the subsidiaries.

These results do not support the view that the market is efficient, at least with respect to international off-balance-sheet events. Perhaps these events which did not take place domestically were not as well communicated or understood as are other events which are also reflected directly in the body of the balance-sheet, and therefore they did not receive a timely assimilation into the market. If this were the case, there appear to be opportunities for financial analysts consistently to "beat the market", by studying carefully such events that do not result necessarily in immediate cash-flow changes and are not reflected in the balance-sheet or income statement in the short-run, but might have significant longer-run impact.

The market may have been aware of the above-mentioned events and have anticipated them long before the formal announcements were made to the public. In that case, the market reaction to establishment of IFSs and their subsequent Eurobonds issuance would have been gradual. Further, the reaction would have been reflected in the multinationals' stock prices before the periods examined in this study and in a way that could not be detected using the method employed in this study. Therefore, a further investigation of this issue from a different perspective might be beneficial.

Appendix. Methodology

The method employed consists of the following steps:

(1) The average return for stock i at time t was computed for the 120 day interval, $t = -240$ to $t = -121$. This average is computed as follows:

$$\bar{R}_i = 1/120 \sum_{t=-240}^{-121} R_{it}$$

where $i = 1,2,\ldots 46$ is an index for the different firms.

(2) For each stock, the adjusted return, A_t, was computed for each day in the interval from $t = -120$ to $t = +50$ by subtracting the average return, R_i, from the actual daily returns during this period, as follows:

$$A_{it} = R_{it} - \bar{R}_i$$

(3) The mean adjusted return, $\bar{A}_t$, is computed for each day across all 46 firms:

$$\bar{A}_t = 1/46 \sum_{i=1}^{46} A_{it}$$

This process results in a cross-sectional mean adjusted return for all firms for the same day or interval of time relative to the particular event in question. These mean adjusted returns can then be used to explore the existence of abnormal reaction.

(4) The t-statistic is computed for specific dates and time intervals as follows:

$$\bar{A}_t / \hat{S}(\bar{A}_t)$$

where

$$\hat{S}(\bar{A}_t) = \sqrt{\sum_{t=-240}^{-121} (\bar{A}_t - \bar{\bar{A}})^2/119}$$

and

$$\bar{\bar{A}} = 1/120 \sum_{t=-240}^{-121} \bar{A}_t$$

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References

1. There is a distinction among three different degrees of market efficiency: weak, semi-strong and strong forms. When the market is efficient, to at least, the semi-strong form, no market participant can expect to make abnormal returns consistently by utilizing any publicly available information.
2. For a detailed review see E.F. Fama, "Efficient Capital Markets: A Review of Theory and Empirical Work," *The Journal of Finance* (May 1970) 383-417. For more recent discussion of this issue see, for example, B.L.Boldt and H.L.Hobit, "Efficient Markets and the Professional Investor,"*Financial Analysts Journal* (July-August 1984) 22-34.

3. For a more detailed discussion of this issue see, for example, D.B. Keim, "The CAPM and Equity Return Regularities," *Financial Analysts Journal* (May-June 1986) 19-34.
4. Under Internal Revenue Code (IRC) Sections 871 and 881 as in effect during the 1970s, all payments of interest income by US payors to non-US individual and corporate recipients which was not effectively connected with a US trade or business were subject to a withholding tax at the source equal to 30 percent. In some cases, this rate was reduced by specific treaty provisions, thus contributing to an increased demand for treaty shopping in the planning and design of international transactions by US firms engaged in multinational activities.
5. US Department of the Treasury, *Tax Havens of the Caribbean Basin* (1984) 22.
6. Several sources of information were utilised to identify as many Netherlands Antilles finance subsidiaries (N.V.s) as possible. These references included the *International Directory of Corporate Affiliations, Moody's International Manual,* and *Standard and Poor's International Creditweek.* In total, nearly 200 N.V.s were identified. Within this sample, initial bond issue data were readily available in 91 cases. Information on the date of incorporation of these subsidiaries, however, was rather elusive. To test both event dates, it was necessary to restrict the sample only to those firms for which incorporation dates and bond issue data were available. Finally, CRSP date were not available for all firms in the years for which data were required. This paring-down process eliminated many companies from the study, leaving a sample size of 46 companies.
7. S.J. Brown and J.B. Warner, "Using Daily Stock Returns: The Case of Event Studies," *Journal of Financial Economics* Vol. 14, No. 1 (March 1985), 3-31.

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A Bicultural Study of Independent Auditors' Perceptions of Unethical Business Practices

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Key words: Ethical business practices; National cultural differences; Perceptual dimensions by practicing accountants

Abstract: This exploratory study was designed to determine whether public accountants' national culture affects their perception of unethical business practices. Data were collected from practicing public accountants in the United States and Taiwan and analyzed using multiple dimension scaling techniques. The American accountants appeared to focus on the legal ramifications of the unethical business practices, consistent with an individualistic society. The Taiwanese accountants appeared to differentiate among the unethical business practices on the basis of the ingroup affected and to balance the severity of the benefits and the perceived harm that could arise from following the unethical business practices.

Members of the accounting profession assume an ethical duty to their clients and their society. This ethical duty contributes to the overall value and integrity of accounting and auditing services. If the public perceives that members of the accounting profession cannot be relied upon to fulfill their ethical duty, confidence in and the value of accounting information will suffer.

Consistency is important to the maintenance of public confidence. From time to time, members of the accounting profession will encounter situations or transactions in which they must make ethical decisions. The accounting profession expects and requires its members to make ethical decisions in accordance with the governing code of professional conduct and the laws and mores of the national culture. Adherence to different codes of professional conduct, laws and national culture mores can cause inconsistent results. Inconsistent results due to different codes of professional conduct and different legal systems can be anticipated and mitigated, for differences in codes of professional conduct and laws can be documented. Inconsistent results that may arise because professional accountants

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adhere to different national cultural mores may not be as easy to anticipate because the differences in national cultural norms are not as well documented or widely understood.

As the world's businesses adopt a more international perspective, the accounting profession has an increased responsibility to provide consistent financial information to international users. Although international accounting and auditing standard setting bodies exist[1], their existence does not necessarily ensure that all business practices will be viewed similarly by members of the accounting profession from different national cultures. In particular, their own national culture may have a significant impact on the way members of the accounting profession perceive ethical situations.

No studies were found that examine the effect that differing national cultures may have on the perception of ethical situations by members of the accounting profession. This study is an exploratory project to determine whether such an effect may be present. If national culture does affect perception of ethical situations, by members of a national accounting profession, knowledge of this effect will be useful to users of international financial information. Two national cultures that are important to world trade, but differ markedly in their cultural heritage were studies: the United States and Taiwan. Because of the exploratory nature of the project, it was important that the subjects were allowed as much freedom as possible when completing the task. To accomplish this purpose, multiple dimensional scaling (MDS) was chosen as the research method. One of the principal advantages of MDS is that any underlying attributes discovered are unstated in the experimental task.[2] As a result, any attributes uncovered should be unbiased by the a priori expectations of the researchers.

National Culture Differences

In 1983, Hofstede[3] identified the following four dimensions that differentiate among 50 national cultures (including the United States and Taiwan):

(1) individualism versus collectivism – how individual society members relate to ingroups;
(2) large or small power distance – how inequalities in power and wealth are dealt with by society members;
(3) strong or weak uncertainty avoidance – how society members deal with the uncertain future;
(4) masculinity versus femininity – whether traditional masculine or feminine social values permeate the society.

Although the US and Taiwanese respondents differed on all four dimensions, the difference was greatest on the first dimension. The United States was the highest rated national culture in terms of individualism, whereas Taiwan was rated a highly collective national culture.

The individualism versus collectivism dimension is representative of the degree to which society members related to their respective ingroups, such as their family, their business, or their nation. Hui and Triandis[4] equated individualism versus collectivism to "concern", or the bond held for the ingroup. The greater the amount of concern felt for others, the more collective the society tends to be.

Collectivists tend to value the interest of their ingroup over their own interests. How their actions will affect members of their ingroup is of great concern to collectivists. Interdependence tends to be stressed and rewarded. Collectivists share in the successes and failures of their ingroup. Moreover, if a member of the ingroup acts in an antisocial manner, all ingroup members feel disgraced.

Members of individualistic societies tend to care primarily for themselves. They do not have as much concern for ingroups, except as what may relate to the interest of their immediate family and their own self-interest. They are more likely to believe that as long as their actions do not directly affect others they are free to do as they please.

A 1987 factor analysis study[5] used adjectives developed by Chinese social scientists to place national cultures on four dimensions. Two of the dimensions, integration and moral discipline, were found to correlate significantly with Hofstede's individualism versus collectivism dimension. Integration was described as an integrative, socially stabilizing emphasis, reflected in terms such as tolerance of others and harmony with others. Moral discipline was concerned with maintaining self-control and flexibility. The third dimension, human-heartedness, correlated with Hofstede's masculinity versus femininity dimension. The fourth dimension, Confucian work dynamism, did not correlate with any of Hofstede's four dimensions. The Confucian work dynamism dimension reflects Confucian work ethics, such as thrift, persistence and having a sense of shame. The United States and Taiwan had widely divergent scores on this dimension. Because all four of their dimensions dealt with the maintenance of "group integrity against more narrowly defined self-seeking", (Ref. 5, pp. 155-158). Bond et al. concluded that one underlying dimension of collectivism contributed to the four dimensions identified in the study.

The fact that Taiwanese are much more collective than Americans provides a basis for hypothesizing that Taiwanese public accountants may perceive unethical business practices in a significantly different manner from US public accountants. For example, the Taiwanese may view an unethical practice that brings them personal gain at the expense of their ingroup more seriously than do their more individualistic US counterparts. Therefore, the following research hypothesis is advanced:

The perceptual dimensions used by Taiwanese public accountants and US public accountants to differentiate among unethical business practices will be different.

A study of Hui and Triandis[4] found that whereas members of collectivist societies had more concern for closely related ingroups than did members of individualistic society members, the difference in concern between the two society types grew smaller as the familiarity with the ingroup lessened. This provides a basis for speculation on the nature of any difference that may be found between the perceptual dimensions used by Taiwanese and US public accountants to differentiate among unethical business practices. Any such difference may be a function of the familiarity of the individual public accountant with the ingroup affected by the unethical business practice.

Method

This study compares the perceptual dimensions used by the US and Taiwanese participants to differentiate among selected forms of unethical business practices. The participants rated the similarity of paired combinations of eight cases representing different unethical practices. The perceptual dimensions were obtained through an MDS analysis of the similarity ratings. MDS produces a visual spatial map which is a valuable aid in determining structures within data when the underlying dimensional constructs are not well understood.[6]

Subjects

The subjects were 20 public accountants from the United States and 32 public accountants from Taiwan. The US subjects practiced in a large midwestern city with two different "Big Eight" firms. The Taiwanese subjects practiced in either Tainan or Taipei (the two largest cities in Taiwan) with two large Taiwanese public accounting firms. Each participant completed a nine-page questionnaire. Twenty instruments were delivered to each of the four firms. Twenty usable responses were received from the US firms (a response rate of 50 percent) and 32 usable responses were received from the firms in Taiwan (a response rate of 80 percent), an overall response rate of 65 percent.

The subjects were also asked to specify their age, accounting experience, level of education and sex. Table 1 is a summary of the demographic profiles of the 52 participants by national culture. The only significant demographic difference between the US and Taiwanese participants was age. The Taiwanese participants tended to be older than their US counterparts.

Table 1. Demographic Breakdown of the 52 Subjects

		US	Taiwanese
Age:	20-29 years	16	12
	30+ years	4	20
	Statistical significance	chi $x^2 = 8.94$, $P < 0.05$	
Auditing experience (average years):		5.52	3.93
	Statistical significance	$T = 1.69$, $P =$ not significant	
Education:	Bachelors	18	23
	Masters	2	9
	Statistical significance	chi $x^2 = 2.43$, $P =$ not significant	
Sex:	Male	13	17
	Female	7	15
	Statistical significance	chi $x^2 = 0.71$, $P =$ not significant	

Cases

The eight cases compared by the participants were developed to identify different ingroups being affected by the unethical business practice depicted. Four of the cases feature unethical business practices that will affect the actor's employer, which is a relatively close ingroup. In three of these cases (case C, South American payment; case H, super microchip; and case D, the bomb book) the actor's employer will receive a benefit as a result of the unethical practice. The other case in this group (case B, lake cottage) portrays an employee favoring his personal interest over the interest of his/her employer. Two of the cases were developed to have an effect on an ingroup that is near the middle of the familiarity scale. The middle familiarity ingroup selected was the accounting profession. These two cases (case A, stock in wife's name and case G, flammable pajamas) feature acts by independent auditors that could result in public embarrassment to the profession should the acts be discovered. The last two cases were developed to have the effect of the unethical act fall upon distant ingroups. Case E (the laundromat) depicts the actor choosing personal interests over those of the nation, while case F (disgruntled client employees) show the actor favoring the interest of an existing client over the interest of a prospective client. A short descriptive title was given to each of the cases to facilitate participant recall. (See Appendix A for the full text of the eight cases presented to the participants.)

To ensure that the eight cases were representative of unethical practices, 17 graduate accounting and MBA students rated each of the cases from one (highly ethical) to seven (highly unethical). None of the cases had significant mean ratings on the ethical scale.

Instrument and Procedure

The instrument required the participants to assign a similarity rating from zero (very similar) to nine (very dissimilar) to all possible pairings of the eight cases. The full text of the cases was contained on a separate, unattached page to allow each participant easy reference, as needed. The 28 comparisons were randomly ordered with four to a page. (See Appendix B for an example comparison.) The case appearing first in each comparison was also randomized. To familiarize the participants with the similarity rating process and to help them to establish a consistent interpretation of similarity quickly, they were provided with two practice comparisons that utilized four cases not used elsewhere in the instrument.

Additional instructions required the participants to select the pairing of cases they found to be the most similar and the paring of cases they found to be the least similar. The purpose of this exercise was to define the zero and nine endpoints of the scale for each participant. The participants were instructed that other similarity ratings should fall between the two endpoints. A side benefit of the exercise was the assurance that each participant read all of the cases before beginning the 28 comparisons.

The test-retest reliability of the instrument was measured by having 15 senior accounting students complete it twice, with a 1-week interval. The average

Pearson correlation coefficient was 0.56, with a range of 0.96-0.30.

As not all of the Taiwanese particpants were fluent in English, the instruments used in Taiwan were presented in English and Chinese. One of the authors, who is fluent in both languages, translated the instrument, with the assistance of the accounting faculty and staff at The National Cheng Kung University of Tainan, Taiwan.

The instruments were delivered to a partner in each participating firm, who agreed to distribute the instruments to a representative sample of experienced staff members, including other partners in the firm. The cooperating partners were instructed that the participants were to complete the instruments in private and anonymously. The completed instruments were collected at each participating office and returned to the authors by mail.

Results

The MDS algorithm INDSCAL, first developed by Carroll and Chang in 1970,[7] was chosen as the MDS method. INDSCAL assumes that individual differences in similarity judgments can be delineated in terms of differential saliences within a common set of perceptual dimensions. The method utilizes commonalities among the subjects to produce a group stimulus space, which is used with the subject stimulus space to provide results that are more easily comprehended than those produced by individual scaling methods.[7]

Typically, when using a multi-dimensional scaling technique, a determination of the preferred solution is made by obtaining solutions in successive dimensions until stress reduction reached an elbow. However, for this exploratory study, the number of dimensions was confined to two. MDS is useful only when the ratio of points (cases) to dimensions is not less than four.[8] Increasing the number of dimensions to reduce stress would have produced solutions that were not representative of the underlying data.

A two-dimensional INDSCAL solution was obtained for each culture. The spatial maps for each solution appear in Fig. 1.

Rather than using traditional statistical tests of significance, MDS spatial maps are interpreted by (1) noting how the points cluster along the dimensions, and (2) labeling the dimensions, if possible, using a priori expectations or external data.[8] Examination of the two-dimensional spatial maps for the Americans and Taiwanese revealed similar clusterings of the cases. On both spatial maps, cases A, B, and E (stock in wife's name, lake cottage and the laundromat); cases F and G (disgruntled client employees and flammable pajamas); and cases C and H (South American payment and super microchip) clustered together. Case D (the bomb book), although appearing close to cases C and H on both maps, did not cluster with any of the other cases. The three distinct clusters of cases indicated some perceptual similarities. To obtain an understanding of any perceptual similarities or perceptual differences, an attempt was made to label the dimensions.

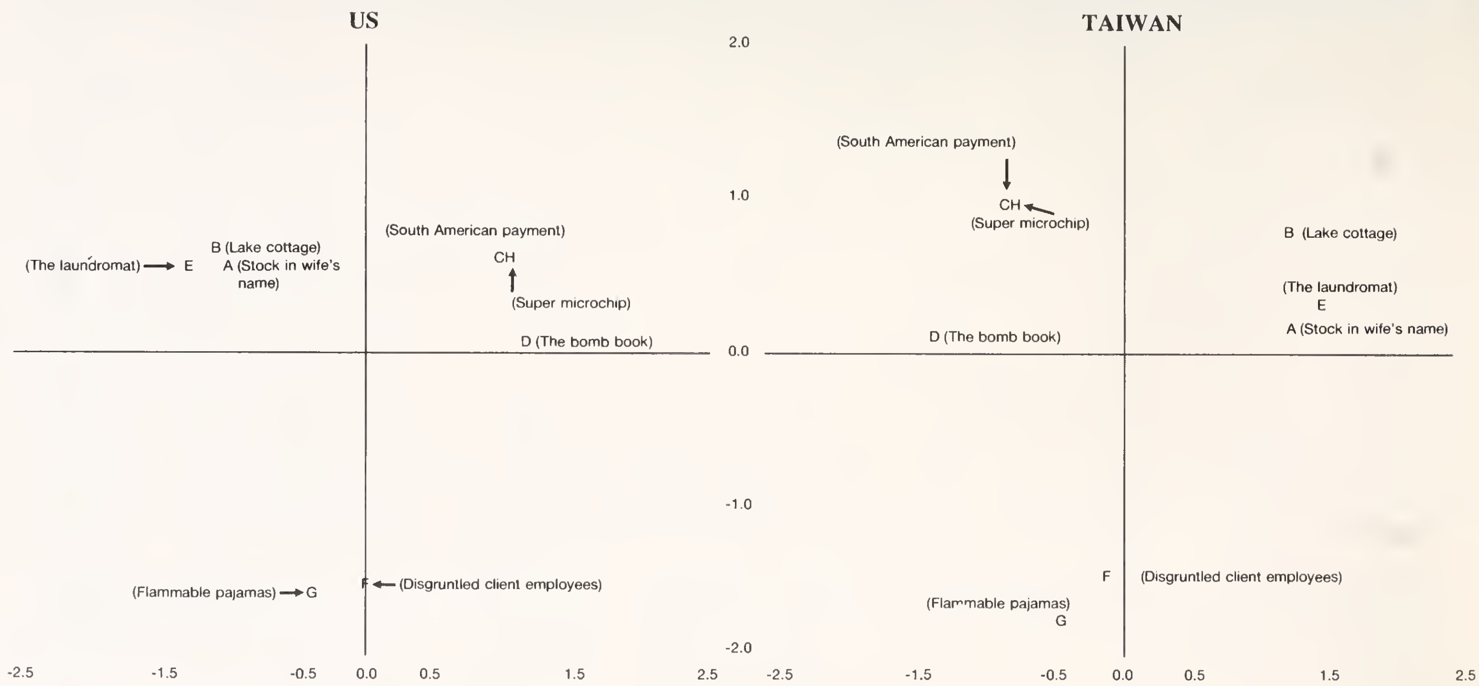

Fig. 1. Two-dimensional INDSCAL Spatial Maps by National Culture; Dimension One (Horizontal) versus Dimension Two (Vertical).

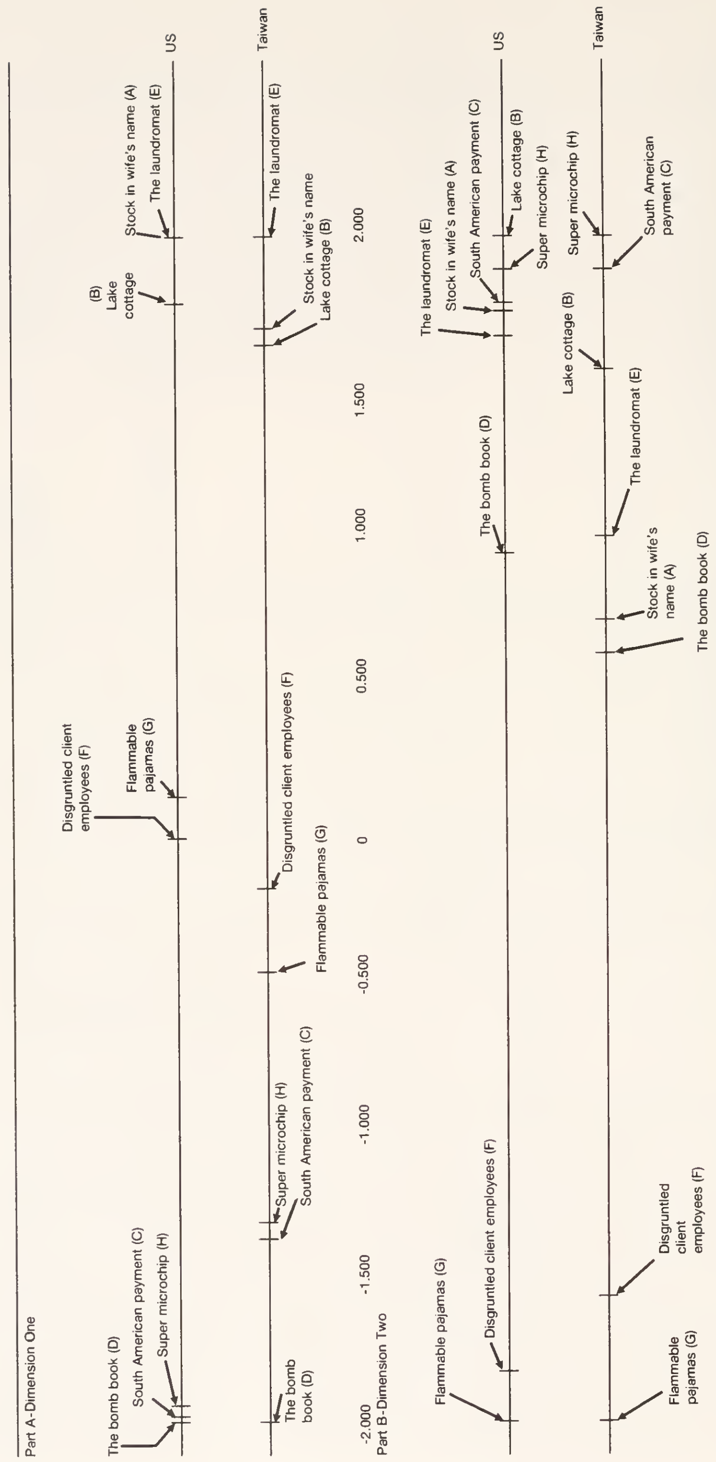

Fig. 2. Lineal Presentation of Dimensions One and Two by National Culture.

Dimension Labeling

Labeling dimensions can be simplified by plotting each dimension lineally using the stimulus coordinates computed by INDSCAL, after rescaling and orbiting, if necessary. The lineal presentation of dimensions one and two for each culture is presented in Fig. 2.

Part A of Fig. 2 reveals three clusters of cases on dimension one for both the US and Taiwanese participants. Cases D, C, and H appeared together on the left side of the line, whereas cases B, A, and E converged on its right side. Cases F and G clustered near the midpoint.

The consideration of the type of gain involved, or the identity of the gain recipient may have outweighed the consideration of the ingroup affected on the first dimension. Cases A, B, and E involved direct personal gain. Cases C, D, and H involved gain which will accrete to the actor's employer. The actor in the last three cases may have eventually reaped personal gain as a result of the action, but only after the gain has filtered through the entity that will receive the direct benefit. Cases F and G, which appeared together near the midpoint, did not involve financial gain, but rather a type of psychic gain. The actor in cases F and G may have felt better about himself/herself, but it is doubtful whether the actor, the actor's business or the actor's employer will have benefited in a tangible manner as a result of the action. Dimension one seems similar for both the US and Taiwanese subjects, although case D may have been perceived somewhat differently. Possible labels for dimension one include gain benefactor (who or what entity receives the direct benefit of the unethical act) and type of gain (direct financial, indirect financial, direct psychic or indirect psychic). As the purpose of the study is to determine whether public accountants from Taiwan and the United States perceive unethical business practices differently, no further labeling of dimension one was necessary.

Part B of Fig. 2 showed that the second perceptual dimension for the US and Taiwanese subjects may have been different. Individualism/Collectivism appeared to be at the root of the difference. The similarity ratings by the US participants produced two case clusters. Cases G and F were together on one side of the line and cases E, A, C, H, and B appeared very close to one another on the opposite side of the line. Case D was alone.

Dimension two for the US participants appears to be illegality. All of the cases clustered on the right side of dimension two were illegal or may have been thought of as illegal. Differences in the ingroup affected seem to have made little or no difference to the US participants. The overriding concern of the Americans seems to have been what effect the unethical act could have on the actor. Cases F and G, on the other hand, did not involve legal transgressions. Specific consideration of the personal legal ramifications by the US participants is not surprising given the highly litigious state and the highly individualistic nature of American national culture.

Dimension two for the Taiwanese, although somewhat similar to that of the US participants at first glance, proved to be different upon close examination. Although cases F and G appeared together on one side of the line for the

Taiwanese, as they did for the Americans, the Taiwanese did not cluster cases E, A, C, H, and B together as the US participants did. Cases H and C were very close to each other on the right side of the line, whereas cases F and G clustered on the left side of the line. Cases D, A, E, and B were grouped between these two clusters. The Taiwanese did not appear to be using illegality for dimension two, for if they were, it is doubtful whether cases A and E would have appeared in the middle cluster of cases. Dimension two for the Taiwanese may have been a combination of their collective nature and a balancing of the severity of the benefits and harm that could have arisen from the unethical business practices. The four cases that appeared at the opposite ends of the line (F and G on the left and C and H on the right) tended to show the collectivist nature of the Taiwanese. Both cases C and H featured the actor endangering a personal interest for the betterment of a significant ingroup (the employer). Cases F and G were perceived as dissimilar to cases C and H by the Taiwanese. Cases F and G involved the actor choosing a close ingroup over a more distant ingroup. In case G the actor has chosen a duty to innocent children over a duty to the profession. Case F was an illustration of choosing a duty to an existing client (a relatively close ingroup) over a duty to a prospective client (a more distant ingroup). The dissimilarity may have been rooted in the fact that in cases F and G the actor simply chose to favor the ingroup he/she had the most concern for (an action that would be common in an individualistic society as well as in a collectivist society[4]), whereas cases C and H featured the actor choosing to favor the employer's interest over his/her own (an action that is consistent with collectivist thought, but not with individualistic thought.)[3]

Cases A, B, D, and E (clustered between the four cases discussed in the previous paragraph) did not seem to have been classified using collectivism. If they were, it is unlikely that these cases would have appeared on the same side of the line as cases C and H, for the actors in cases A, B, D, and E chose their own interest over the interest of their ingroup. This middle group of cases seems to be perceived as similar by the Taiwanese because in each case the benefit to be derived by the actor was greater than the potential harm that may have fallen upon the actor's ingroup.

Conclusion

The major purpose of this study was to determine whether the perceptual dimensions used by Taiwanese and US public accountants to differentiate among unethical business practices are different. The MDS results indicate that while on one dimension the US and Taiwanese accountants perceived the cases in a similar manner, they perceived the cases differently along the second dimension. The US participants appeared to be more concerned with the legal ramifications of their actions than were the Taiwanese. The accountants from Taiwan seemed to be more concerned about how their ingroup would be affected by their actions than were the American accountants.

This exploratory study shows that accountants from different cultures, despite commonality in training and professional duties, do approach ethical questions from the perspective of their cultural background. Users of international financial data should consider any cultural differences between themselves and the preparer. The study also demonstrates the need for further international interaction between the national accounting bodies, to promote a truly international profession.

These results should be used with caution. The data were not collected from a representative sample of the Taiwanese or the US accounting profession. The participants represented large accounting firms, large cities and specific geographic regions in the two national cultures. As a result, a bias may be present. In addition, for the purposes of this exploratory study, the number of dimensions was confined to two, to limit the number of cases the participants would be required to compare to eight. More than one dimension may have collapsed into one if more than two dimensions were actually present.

Appendix A. Unethical Business Practice Cases

Stock in Wife's Name

Case A. Mr. AAA is the independent auditor of White Corp. During the annual audit he saw that the reported earnings of White Corp. will be substantially more than in the previous year. He purchased White Corp. stock in his wife's name before the earnings were made public.

Lake Cottage

Case B. Mr. BBB is a purchasing agent for a large insurance company. For the past four summers, a sales representative of the Orange Paper Co. has made his lake cottage available to him free of charge. Mr. BBB continues to purchase Orange Paper's products, although some competitors offer slightly lower prices for products of similar quality.

South American Payment

Case C. Mr. CCC is a division manager of Green Refrigeration. He had been unsuccessful in his attempts to gain access to the market in a large South American country where the company could expect to earn large profits. Six months ago a government official from the country contacted Mr. CCC and stated that he could guarantee market access for a large cash payment. Mr. CCC arranged for the payment and Green Refrigeration has been granted access to the market.

The Bomb Book

Case D. Mr. DDD is the senior editor of Grey Publishing. Two months ago, he received a new spy novel from his most successful author. The piece is by far the author's best work to date and it is sure to be a bestseller. It contains, however, a detailed description of how to construct an atomic bomb from materials available to the public. Mr. DDD attempted to persuade the author to delete the bomb construction details, but he refused. Wanting to ensure that he will publish the author's future works, Mr. DDD approves publication of the novel as is.

The Laundromat

Case E. Mr. EEE owns three coin-operated laundromats. Twice each week he removes the coins from the machines and makes a bank deposit. Each time he removes the coins, he does not deposit all of the money. He uses the money he does not deposit for various personal expenses. Mr. EEE's tax return is prepared each year from his bank statements.

Disgruntled Client Employees

Case F. Mr. FFF, a management consultant, is approached by a prospective client, who is employed by an existing client. The employee tells Mr. FFF that he and two other key employees feel the employer is not fair to them, and that they are planning to form a partnership to compete with the employer. Mr. FFF later reveals the scheme to the employer, who is able to thwart the employees' plans.

Flammable Pajamas

Case G. Mr. GGG is the independent auditor of Blue Corp., a clothing manufacturer. Two years ago, it was discovered that a new line of children's pajamas made by Blue Corp. were highly flammable. Blue Corp. recalled all of the pajamas, and suffered a major loss. While conducting the current annual audit, Mr. GGG became aware that the company was selling the flammable pajamas in a South American country, where there are no safety regulations to worry about. After the audit was completed, Mr. GGG made an anonymous phone call to the local newspaper and informed them of Blue Corp.'s actions. The newspaper investigated and ran a series of front page articles. In response Blue Corp. stopped selling the flammable pajamas.

Super Microchip

Case H. Mr. HHH is the Chief Executive Officer of Brown Company, which is a high-tech company. He has received word that a foreign company will introduce a super microchip within the next year that will make all current technology virtually obsolete. The super microchip is said to be so advanced that once it is introduced by a foreign company, the domestic high-tech industry will be devastated. An employee of the foreign company approached a Brown Company official and offered to steal the super chip's design plans in exchange for a large cash payment. Mr. HHH authorized the payment.

Appendix B. An Example of the 28 Similarity Comparisons Contained in the Research Instrument

Rating of the similarity of unethical practices in the following two cases:

Case B: Lake cottage

Case D: The bomb book

Most		Least
similar	0 1 2 3 4 5 6 7 8 9	similar
practices	<------- ------->	practices
	(more similar) (less similar)	

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Towards a Framework to Analyze the Impact of Culture on Accounting

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Key words: Cultural influences on accounting; Individualism versus collectivism; Internationalization of accounting standards; National accounting practices; Societal values and accounting practices

Abstract: This paper considers the impact of culture on accounting. The study of culture and cultural structures by Hofstede is reviewed, together with the application of these ideas to accounting, particularly in the work of Gray. The development of a theoretical framework to analyze the impact of culture on accounting is attempted. Explanations within the literature on culture and accounting are sought for various differences in accounting practices in Anglo-American, Continental European, and developing countries.

A growing amount of research focuses on national systems of accounting, particularly on the Anglo-American and Continental European countries.[1-6] Accounting practices in Continental Europe became a significant research issue in the mid 1970s, subsequent to the UK entry into the European Economic Community (EEC). The renewed interest in this area generated a number of relatively detailed studies of individual countries, e.g., West Germany,[7] France,[8] and the Netherlands.[9] In addition, there are several comparative studies, encompassing a wide range of countries (AICPA,[10] 30 countries: Price Waterhouse,[11-13] 38, 46 and 64 countries respectively; OECD,[14] 20 countries; Choi and Bavishi,[15] 100 companies in 24 countries; Cairns et al.,[16] 250 companies in 33 countries; Gray et al.,[17] 20-50 companies in each of the 30 countries surveyed). The findings of these studies confirm that a world-wide diversity of accounting requirements and practices exists.

One of the significant outcomes of research endeavors in the analysis of accounting in different countries has been an enhanced awareness of the importance of environmental factors in molding a country's accounting system. This in turn has led to serious attempts to identify both the relevant environmental factors

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and the manner by which such factors influence accounting. Here, culture is often considered to be one of the powerful environmental factors affecting the accounting system of a country. This consideration is based on the broad premise that accounting is a socio-technical activity involving both human and non-human resources or techniques as well as interaction between the two. Although the technical aspect of accounting is less culture dependent than the human aspect, because the two interact, accounting cannot be culture free.

The associations between accounting and culture were the subject of at least three recent international conferences, i.e., the American Accounting Association Annual Conference, New York, August 1986;[18] the Workshop on Accounting and Culture, Amsterdam, June 1985; and the Workshop of Accounting and Culture, Brussels, December 1987. However, the impact of culture upon accounting has yet to be established. Most of what has been written consists of *ex cathedra* propositions without adequate analysis or of non-generalizable case studies. Obviously, any exercise to analyze the cultural influence on accounting should identify (1) a set of specific societal values or cultural factors which are likely to be directly associated with accounting practices, and (2) the manner by which the association between societal values and accounting practices occurs, for it is only then that the impact of cultural influence can be examined logically. This paper attempts to develop a theoretical framework incorporating the above factors.

Aspects of Culture

Most discussions of culture often refer to the fact that members of a given culture tend to share common frameworks of meanings, social understandings, values, beliefs, and symbols. Culture is often regarded as an expression of norms, values and customs which reflect typical behavioral characteristics.[19] This is similar to Hofstede's definition of culture, i.e., "the collective programming of the mind which distinguishes the members of one human group from another" (Ref. 20, p. 25).

Before 1970, most attempts to understand the determinants of human behavior had a distinctly ethnocentric bias.[21] Recently there has been an increased interest in cross-cultural research, primarily as a result of the desire to test the universality of Euro-American psychological theories.[22] Research findings have resulted in the realization that not all the key elements of contemporary psychological theories, such as motivation theory, may be universal. This has led to the present efforts to determine which aspects of psychological theorizing are truly universal, which may be modified by cultural variables, and which may be valid only in a particular culture.

The study of culture is characterized by a unique problem arising from the inexhaustible nature of its components. It is essential, therefore, that in analyzing the impact of culture upon the behavior of the members of any particular sub-culture, a researcher must select the cultural components or dimensions most pertinent to the particular facet of cultural behavior being studied.

Culture has featured prominently in recent discussions of the factors influencing the accounting development of a country.[5,18,23-26] The lack of consensus among different countries on what represents proper accounting methods has been suggested to exist because their purpose is cultural not technical. The content of reports depends on local history and convention.[27] This is probably why the product of accounting, i.e., financial statements and reports, sometimes has a shareholder orientation, at other times, a creditor orientation or, occasionally, serves the interests of national planners or public administrators.[28]

Cross-cultural behavioral research in accounting is likely to provide some explanation of why differences in accounting techniques and practices exist between countries and to answer the question whether the findings of researchers in one culture can be transferred without modification for effective use in another culture. In this context, given the status of accounting research in this area, findings of similar research efforts in other related fields would be helpful. For example, in the field of management, Hofstede sought to analyze differences in work-related values across cultures. His study was based on data collected through an employee attitude survey in a multinational corporation. The survey was undertaken twice between 1968 and 1973, involving different subsidiaries in 64 countries, and 116000 questionnaires in 20 languages.[29]

Culture-based Societal Value Dimensions

In an attempt to develop a commonly acceptable, well-defined and empirically based terminology to describe cultures, Hofstede identified four distinct dimensions which he considered to be reflective of the cultural orientation of a country. These are

(1) individualism versus collectivism,
(2) large versus small power distance,
(3) strong versus weak uncertainty avoidance, and
(4) masculinity versus femininity.

The main features of these dimensions and some of the issues associated with them as discussed below, followed by a consideration of their implications for accounting.

Individualism Versus Collectivism

This dimension relates to the degree of integration a society maintains among its members, or the relationship between an individual and his/her fellow individuals. Individualism represents a preference for a loosely knit social framework in society, wherein individuals are supposed to care for themselves and their immediate families. On the other hand, collectivism indicates a preference for a tightly knit social framework in which individuals can expect their relatives or other ingroup to care for them in exchange for unquestioning loyalty.

The identified characteristics of this dimension tend to raise some questions with established theories which have a bearing on management thought in general (for example, the general validity of economic theories based on self-interest and of psychological theories based on self-actualization), because in a collectivist society, preference is given to collective interest and achievement. Hofstede concluded that the degree of individualism in a country is statistically related to that country's wealth (Ref. 30, p. 80). Accordingly, wealthy countries tend to be more individualistically oriented, whereas poor countries tend to be more collectivistically oriented. This would seem to indicate an aspect of clear difference in societal values that exist between countries (see Appendix).

Large Versus Small Power Distance

This dimension relates to the extent to which the members of a society accept that power in institutions and organizations is distributed unequally. For example, in large power distance societies, people tend to accept a hierarchical order in which everybody has a place which needs no further justification, whereas in small power distance societies people tend to strive for power equalization and demand justification for those power inequalities that do exist. The identified characteristics of this dimension tend to draw attention to issues such as whether subordinate consultation is necessary or paternalistic management is accepted.

In a large power distance society, subordinate consultation may not be as important as in a small power distance society, because there is a tendency for its members to accept paternalistic management. The degree of inequality in a society is measured by the extent of power distance. The level of power distance is related to the degree of centralization of authority and the degree of autocratic leadership. Societies in which power tends to be distributed unequally can remain so because this situation satisfies the psychological need for dependence of the people without power. In other words, the value systems of the two groups are complementary. Hofstede identified a global relationship between power distance and collectivism (Ref. 30, p. 82). Collectivist countries always show large power distance, although individualist countries do not always show small power distance. Interestingly all poor countries are collectivist with large power distance (see Appendix).

Strong Versus Weak Uncertainty Avoidance

This dimension relates to the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. The fundamental issue involved here is how a society reacts to the fact that the future is unknown, i.e., whether it tries to control its future or simply awaits it passively. In the weak, uncertainty avoidance societies people have a natural tendency to feel relatively secure, whereas in strong uncertainty avoidance societies people tend to try to manage the future, because the future remains essentially unpredicatable and there will be a higher level of anxiety. In such societies, institutions will also exist that try to create security and avoid risk. One important way to create security is through law and other formal rules and institutions, whereby protection is provided against the unpredictability of human behavior.

The existence of a relatively high degree of planning of economic activities in strong uncertainty avoidance societies could also be explained in terms of this value dimension. Religion is another avenue to create a feeling of security. All religions attempt to create in the minds of people an expectation of something which is certain. The identified characteristics of this dimension tend to draw attention, among other things, to the existence of an emotional need for formal and informal rules to guide behavior, the degree of formalization, standardization and ritualization of organizations, the extent of tolerance for deviant ideas and behavior and willingness to take risks. There are various patterns of relationship between the degree of uncertainty avoidance and power distance (see Appendix).

Masculinity Versus Femininity

This dimension relates to the division of roles between the sexes in a society. Masculinity stands for a societal preference to show personal pride through achievement; heroism; assertiveness; financial success; or to enjoy material success. Femininity stands for a preference to place relationships with people above money; to help others; to care for the weaker, the quality of life and preservation of the environment; and to "small is beautiful".

The characteristics identified by this dimension tend to draw attention to the existence within a society of competitiveness versus solidarity, equity versus equality, and achievement motivation versus relationship motivation. Career expectations and the acceptability of macho manager behavior are some of the issues raised by this dimension. On this dimension there is no identifiable pattern between countries (see Appendix – data extracted from Hofstede).[29]

Towards a Theoretical Framework

Societal Values and Accounting Values

In identifying a set of specific societal values likely to be directly associated with accounting practices, Arpan and Radebaugh[25] made a useful contribution. The societal values they identified are conservatism, secrecy, attitudes towards business and attitudes towards the accounting profession. They do not, however, provide an systematic analysis of the relationships between factors and accounting practices.

Gray's study[31] represented a significant attempt to develop a model by identifying the mechanism by which societal level values are related to the accounting sub-culture which directly influences accounting practices. Gray used Hofstede's culture-based societal value dimensions as the basis for his analysis. He also identified four value dimensions of the accounting sub-culture which are also related to societal values: professionalism, uniformity, conservatism, and secrecy. Furthermore, he classified accounting systems on the basis of each of the four accounting values.[31]

Gray's analysis allows the identification or certain direct associations between the values of the accounting sub-culture and the societal dimensions of individualism and uncertainty avoidance (Table 1).

Table 1. Direct Associations Between Societal and Accounting Values

Values of accounting sub-culture	Relationship with societal values	
	Positive	Negative
Professionalism	Individualism	Uncertainty avoidance
Uniformity	Uncertainty avoidance	Individualism
Conservatism	Uncertainty	Individualism
Secrecy	Uncertainty avoidance	Individualism

Accounting Values and Accounting Practice

Values of the accounting sub-culture are likely to influence certain aspects of accounting practice, namely

(1) the authority for accounting systems,
(2) their force of application,
(3) the measurement practices used, and
(4) the extent of information disclosed.[31]

In particular, the degree of professionalism preferred in an accounting sub-culture would influence the nature of authority for the accounting system. The higher the degree of professionalism the greater the degree of professional self-regulation and the lower the need for government intervention. The degree of uniformity preferred in an accounting sub-culture would have an effect on the manner in which the accounting system is applied. The higher the degree of uniformity the lower the extent of professional judgment and the stronger the force applying accounting rules and procedures. The amount of conservatism preferred in an accounting sub-culture would influence the measurement practices used. The higher the degree of conservatism the stronger the ties with traditional measurement practices. The degree of secrecy preferred in an accounting sub-culture would influence the extent of the information disclosed in accounting reports. The higher the degree of secrecy, the lower the extent of disclosure. These associations between culture-based societal values and accounting systems are identified in Table 2.

Table 2. Societal Values and Accounting Practice

Societal values managerial/work-related values	------>	Accounting values	------>	Accounting practice
Individualism vs collectivism		Professionalism		Authority
Large vs small power distance		Uniformity		Application
Strong vs weak uncertainty avoidance		Conservatism		Measurement
Masculinity vs femininity		Secrecy		Disclosure

Any given aspect of accounting practice, however, may be influenced by more than one accounting value. For example, the extent of disclosure is likely to be influenced not only by the degree of secrecy, but also by the degrees of conservatism, uniformity and professionalism preferred in an accounting sub-culture. The higher degree of conservatism, the more prudence will be preferred to disclosure; the higher the degree of uniformity (of the lower the degree of professionalism), the more emphasis placed on compliance rather than disclosure. Therefore, the extent of disclosure in financial reports would seem to differ between countries in line with differences in the value orientations of the preparers of those reports.

Accounting and Culture

On a broader perspective, societal values are affected by ecological influences through geographic, economic, demographic, historical, technological, and urbanization factors, which in turn are influenced by external factors, such as the forces of nature, trade, investment and conquest. On the other hand, both ecological factors and societal values influence a society's institutional arrangement for

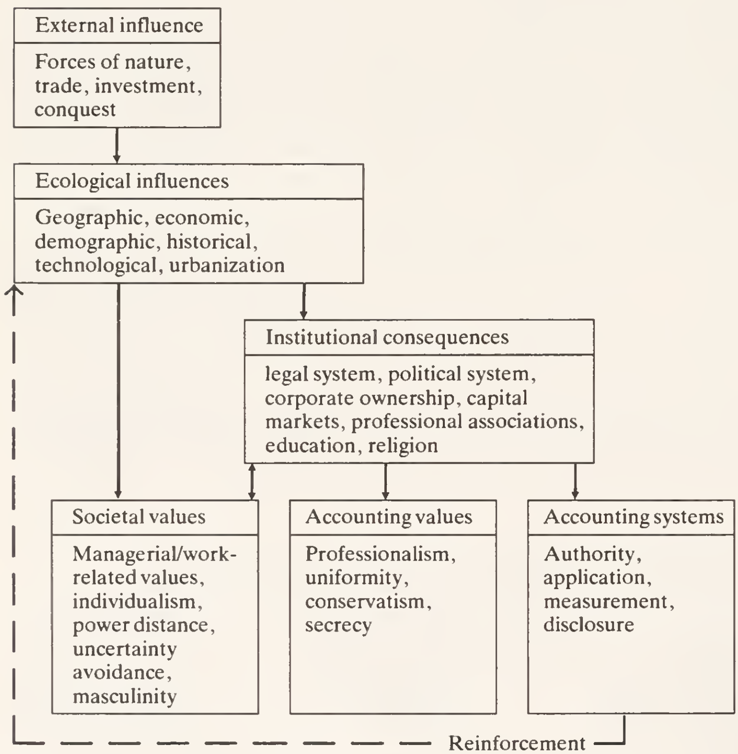

Fig. 1. Accounting and Culture

legal and political systems, corporate ownership, capital market, professional associations, education, and religion, which affect accounting values and accounting practices. These relationships are identified in Fig. 1.

The foregoing analysis suggests some associations between societal values and accounting values (thus accounting systems). Understandably the associations are complex. Tables 1 and 2 and Fig. 1 indicate general relationships based on a consideration of Hofstede's findings and an analysis of the activities of accountants. One could articulate some specific hypotheses on the basis of these relationships. The tables and figure incorporate four variables concerning culture-based societal values, i.e., individualism versus collectivism, large versus small power distance, strong versus weak uncertainty avoidance, masculinity versus femininity, and four values of an accounting sub-culture, i.e., professionalism, uniformality, conservatism and secrecy.

Focusing on the relationship between societal values and the accounting sub-culture (and disregarding for the moment the link between the accounting sub-culture and accounting systems), Fig. 1 could be restated as a series of specific hypotheses about those relationships, e.g.,

(1) The greater the individualism and the smaller the uncertainty avoidance within a society then the greater the professionalism (or the smaller the uniformity) exhibited within an accounting sub-culture.

(2) *Corollary:* The less the individualism and the greater the uncertainty avoidance within a society then the less the professionalism (or the greater the uniformality) exhibited within an accounting sub-culture.

(3) The greater the uncertainty avoidance and the less the individualism within a society then the greater the conservatism exhibited within an accounting sub-culture.

(4) *Corollary:* The smaller the uncertainty avoidance and the greater the individualism within a society then the smaller the conservatism exhibited within an accounting system.

(5) The greater the uncertainty avoidance and the less the individualism within a society then the greater the secrecy exhibited within an accounting sub-culture.

(6) *Corollary:* The smaller the uncertainty avoidance and greater the individualism within a society then the smaller the secrecy exhibited within an accounting sub-culture.

As stated earlier, the above hypotheses were developed from Hofstede's observations and classifications of circumstances in 1968-1973. Hofstede was concerned with management practices and not with accounting values and practices or associations relevant to accounting values and practices. It would be possible to replicate the above analysis by remeasuring variables to see whether the relationships hypothesized from 1968-1973 data still exist in 1980s.

Analysis

Anglo-American and Continental European Systems of Accounting

As national differences in accounting systems and practices became increasingly evident, attempts were made to identify international patterns and to classify countries on the basis of those patterns. Two alternative approaches have been taken. The first involves the identification of relevant environmental factors and links them to national accounting practices.[1, 32-36] The second involves the classification of accounting practices by using statistical analysis and then attempts to explain the patterns discovered by reference to environmental factors.[37-41] Many of the classifications developed through the above approaches suggest, *inter alia,* significant differences between Anglo-American and Continental European countries in terms of their patterns of accounting development. The Anglo-American countries are grouped as micro-business practice based systems whereas the European countries, with the exception of the Netherlands, are grouped as macro-uniform systems.[32, 35, 36]

Different Cultural Environments

The differences identified in the accounting systems between Anglo-American and Continental European countries can be explained in terms of their cultural environments. The growth of economic activity in the UK occurred in an atmosphere of classical liberalism with a broadly *laissez-faire* approach to government. This was also true of the economic growth that began to gain momentum in the United States in the middle of the nineteenth century. In such a highly individualist atmosphere, the promotion of investment, by trying to interest people with uncommitted funds in various investment projects, became an important activity. Once prospective investors began to assess investment opportunities on the basis of their expected earnings, financial statements that included some kind of earnings amount became a necessity for the functioning of the entire system.[42] This was the background for the development of capital market activity which is the main source of funds for investment in both countries. The activities of these markets have resulted in continuous pressure being exerted for the provision of financial information for investors, making investors the most important recipients of accounting reports from companies.[43,44]

The pressure for disclosure had a significant effect on the development of accounting principles and practices in these countries and the requirements of the capital markets became a major influencing factor in their disclosure patterns. Furthermore, financial reporting and capital market activity were so closely related that they became interdependent.[45] Similar developments took place in other Anglo-American accounting countries, such as Australia, Canada, and New Zealand. It was assumed that these developments should be implemented by accountants, independent of legal direction or government intervention.

The position in much of Continental Europe is quite different from that outlined above. In both France and West Germany there has been a tradition of state intervention in economic affairs. Unlike the position in the UK and the United States, the influence of the classical economists was far more limited in Continental Europe. Instead, there have been a succession of economic theories with a common thread of anti-individualism. Financial accounting in France is generally influenced by legislation, a result mainly of the determination of the French Government to obtain data for macro-accounting purposes. The 1947 Plan Comptable General, which has been adopted by virtually all enterprises in the country, contains a detailed chart of accounts and a series of model financial and statistical reports which are considered necessary for micro- and macro-accounting purposes. The French plan makes is clear that among its objectives in seeking data on an enterprise are

(1) the promotion of more reliable national economic policies,
(2) the minimization of social misunderstandings,
(3) ensuring the availability of data for government studies of market trends, and
(4) assistance to the government authorities in exercising control over the economy.

Furthermore, French companies have traditionally relied much less on an active new issue market as a source of long-term funds than have UK and US companies. This has resulted in a lower emphasis on the provision of investor-oriented corporate financial reporting and on the audit function as a safeguard for investors. Therefore, the primary influence on the development of accounting principles and practices in France has been the General Accounting Plan, rather than the pronouncements of the accounting profession. Similarly, in Germany, as demand for industrial capital increased during the second half of the nineteenth century, strong banks, rather than individuals, organized by a promoter, emerged as suppliers of a significant portion of that capital.

Fig. 1 reveals some direct associations between societal values and accounting values. Accordingly, where there is a high level of individualism in a society, it will have a positive effect on the degree of professionalism and negative effects on the degrees of uniformity, conservatism, and secrecy preferred in the accounting subculture. Where there is strong uncertainty avoidance in a society, it will have a negative effect on the degree of professionalism and positive effects on the degrees of uniformity, conservatism, and secrecy preferred in its accounting subculture. The former represents the situation in Anglo-American countries while the latter conditions apply in Continental European countries, particularly France and West Germany.

The Continental European countries, in particular France and West Germany, are high on the uncertainty avoidance scale, whereas Anglo-American countries are relatively low on the same scale. The characteristics of the uncertainty avoidance dimension reveals that in cultures which are high on the scale, behavior tends to be more rigidly prescribed, either by written rules or by unwritten social codes. The presence of these rules satisfied people's emotional needs for order and predictability in society, and people feel uncomfortable in situations where there are no rules. Therefore, in general, one can expect more formalization and institutionalization of procedures in strong uncertainty avoidance societies than in weak uncertainty avoidance countries.

There is a preference for the exercise of individual professional judgment, the maintenance of professional self-regulation, and flexibility in accordance with the perceived circumstances of individual companies in the accounting sub-culture of Anglo-American countries, whereas there is a preference for compliance with prescriptive legal requirements and statutory control, the maintenance of uniform accounting practices between companies, and the consistent application of such practices over time in the accounting sub-cultures of Continental Europe. Also, there is more support in the latter group for a prudent and cautious approach to income measurement to cope with the uncertainty of future events and the confidentiality of the information by restricting disclosures to only those involved with the management and financing of the organization.

These characteristics, in turn, tend to influence the degree of disclosure expected in the respective accounting systems or practices. For example, in France and West Germany, where the level of professionalism is relatively low and the preference for conservatism and secrecy is relatively high, the combined effect on the degree of disclosure will be negative. On the other hand, the collectivist or anti-individualist values of the society require business enterprises to be accountable to society by way of providing information. Therefore, it becomes necessary for the Government to intervene and prescribe certain disclosure requirements, including those in regard to social accounting. Furthermore, this situation is not likely to be rejected by the accounting profession, because, as discussed earlier, there is a preference for compliance with prescriptive legal regulation and statutory control in the accounting sub-culture. By comparison, in the United States and UK, although the relatively high level of professionalism and low level of preference for conservatism and secrecy tend to have a positive combined effect on the degree of disclosure in accounting practices, the individualistic values of the society are more concerned with the provision of information to shareholders or investors than with those issues involving accountability to society at large.

Accounting in Developing Countries

Hofstede's survey results clearly demonstrate that there are significant cultural differences between Anglo-American countries and many developing countries (see Appendix). These differences are most easily identifiable in the areas associated with the dimensions of individualism/collectivism and power distance. The identified characteristics of these dimensions raise some important issues concerning accounting matters which involve the above two groups of countries, e.g., the transfer of account skills to developing countries. The skills so transferred from Anglo-American countries may not work because they are culturally irrelevant or dysfunctional in the receiving countries' context.[46] To the extent that accounting skills are culturally specific, these differences are certain to create gaps in virtually any such transfer which includes accounting standards and practices.

The developing countries in general are at the bottom end of the individualism versus collectivism scale. This indicates a relatively low degree of professionalism

Appendix. Values of the Indices for Fifty Countries (with Rank Numbers) and Three Regions[29]

Country	Power Distance		Uncertainty Avoidance		Individualism		Masculinity	
	Index	Rank	Index	Rank	Index	Rank	Index	Rank
Argentina	49	18-19	86	36-41	46	28-29	56	30-31
Australia	36	13	51	17	90	49	61	35
Austria	11	1	70	26-27	55	33	79	49
Belgium	65	33	94	45-46	75	43	54	29
Brazil	69	39	76	29-30	18	25	49	25
Canada	39	15	48	12-13	60	46-47	52	28
Chile	63	29-30	86	36-41	23	15	28	8
Colombia	67	36	80	31	13	5	64	39-40
Costa Rica*	35	10-12	86	36-41	15	8	21	5-6
Denmark	18	3	23	3	74	42	16	4
Equador*	78	43-44	67	24	8	2	63	37-38
Finland	33	8	59	20-21	63	34	26	7
France	68	37-38	86	36-41	71	40-41	43	17-18
Germany (F.R.)	35	10-12	65	23	67	36	66	41-42
Great Britain	35	10-12	35	6-7	46	22		
Greece	60	26-27	112	50	35	22	57	32-33
Quterala*	95	48-49	101	43	6	1	37	11
Hong Kong	68	37-38	29	4-5	25	16	57	32-33
Indonesia*	78	43-44	48	12-13	14	6-7	46	22
India	77	42	40	9	43	30	56	30-31
Iran	58	24-25	59	20-21	41	27	43	17-18
Ireland	28	5	35	6-7	70	39	68	43-44
Israel	13	2	81	32	51	32	47	23
Italy	50	20	75	28	76	44	70	46-47
Jamaica*	45	17	13	2	39	26	68	43-44
Japan	54	21	92	44	46	28-29	95	50
Korea (S)*	60	26-27	85	34-35	10	11	39	13
Malaysia*	104	50	36	8	26	17	50	26-27
Mexico	81	45-46	82	33	30	20	69	45
Netherlands	38	14	53	18	30	46-47	14	3
Norway	31	6-7	50	16	59	38	8	2
New Zealand	22	4	49	14-15	19	45	58	34
Pakistan	55	22	70	26-27	14	6-7	50	26-27
Panama*	95	48-49	86	36-41	11	3	44	19
Peru	64	31-32	87	42	16	9	42	15-16
Philippines	94	47	44	10	32	21	64	39-40
Portugal	63	29-30	104	49	27	18-19	31	9
South Africa	49	18-19	49	14-15	65	35	63	37-38
Salvador*	66	34-35	94	45-46	29	12	40	14
Singapore	74	40	8	1	20	13-14	48	24
Spain	57	23	86	36-41	51	32	42	15-16
Sweden	31	6-7	29	4-5	71	40-41	5	1
Switzerland	34	9	58	19	68	37	70	46-47
Taiwan	58	24-25	69	25	17	10	45	20-21
Thailand	64	31-32	64	22	10	13-14	34	10
Turkey	66	34-35	85	34-35	17	24	45	20-21
Uruguay*	61	28	100	47	16	23	38	12
U.S.A.	40	16	46	11	91	50	62	36
Venezuela	81	45-46	76	29-30	12	4	71	48
Yugoslavia	76	41	83	43	27	18-19	21	5-6
Regions:								
East Africa*	64	(31-32)	52	(17-18)	27	(18-19)	41	(14-15)
West Africa*	77	(42)	54	(18-19)	20	(13-14)	46	(22)
Arab Ctrs*	80	(44-45)	68	(24-25)	39	(25)	53	(28-29)

*New Data

in the accounting sub-culture. As a result, there will be little regard for adequacy or accuracy of the published information. Therefore, an active role of governments in developing accounting principles and providing legal authority is likely to result in a higher reliability of published financial information, which may be essential for creating public confidence and trust in companies, and for creating an atmosphere where industrialization can make progress in these countries.

Most developing countries can be categorized as strong uncertainty avoidance societies, as the future remains essentially unpredictable and there is high degree of anxiety among people. In such societies there is an emotional need for legal protection and government interference to safeguard public interest.

In addition, being large power distance societies, there is a high degree of centralization of authority in developing countries, and there tends to be a psychological need for dependence of the people without power. These factors would seem to indicate favorable conditions for legal and government control in accounting.

Furthermore, as developing countries in general are collectivist oriented they tend to demonstrate a strong preference for maintenance of uniformity on the grounds of individualist values, such as preference for flexibility in action. Also, to the extent that they are strong uncertainty avoidance societies, there is an emotional need for formalization to guide behavior. This is supported by a tendency to regard deviant ideas as a threat and not to tolerate them. Finally, as all developing countries are large power distance societies, there is significant emphasis on maintaining order, which is also a factor in favor of uniformity. Gray's classification of countries on the basis of accounting values clearly reflects these tendencies.[31]

Internationalization of Accounting Standards

The standard-setting process of the International Accounting Standards Committee has been demonstrated to be strongly influenced by the Anglo-American accounting model.[26] As a result, International Accounting Standards tend to reflect the circumstances and the pattern of thinking in a particular group of countries. In view of the issues raised in this paper, the Standards are likely to encounter additional problems of relevance in countries where different cultural environments from those found in Anglo-American countries exist.

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The Use of Computer Simulation in International Accounting Research

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Key words: Types of simulation; International accounting data; Evaluation of accounting alternatives

Abstract: The paper attempts to assist researchers who seek alternative methods to investigate financial accounting issues that cross national boundaries. The advantages and disadvantages of computer simulation relative to other research methods and past studies are reported.

Simulation has special potential for international accounting research. Because of the scarcity of relevant data now available to investigate international issues, simulation can be used for an initial evaluation of accounting alternatives for their sensitivity to various environmental factors and varying economic conditions. The external validity of simulations can be increased by using empirical date inputs, such as general and specific prices, growth, exchange rates and interest rates – data which are more readily available internationally than are alternative accounting measurements themselves.

This paper analyzes the potential of computer simulation as a research method to study international accounting issues, with emphasis on financial accounting topics.[1] The objective is to aid researchers who are seeking an effective method to investigate issues that cross national boundaries, especially issues of harmonization and comparability of national accounting standards. The next section discusses past simulation studies and general strengths of computer simulation relative to other research methods. Seventeen studies are cited, including both national and international issues; all were published in English. The second section describes major types of computer simulation based on whether their inputs are deterministic, stochastic or empirical. The third section discusses limitations of specific simulation techniques, most of which can be avoided by careful planning of the research design. The final section contains suggestions for future research.

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Uses of Computer Simulation

Tables 1 and 2 identify the simulation studies included in this paper and the countries whose accounting standards they address. Table 1 indicates the dates of those studies and where they were published. Table 2 indicates that few simulation studies have been directed primarily at international accounting issues. Most of them consider accounting standards that are practiced in or have been proposed for practice in the United States.

Table 1. Simulation Studies in Order of Publication

Author(s)	Publication/publisher
Davidson and Kohlmeier (1966)	*Journal of Accounting Research*
Greenball (1968a)	*Journal of Accounting Research*
Greenball (1968b)	*Journal of Accounting Research*
Abel (1969)	*Journal of Accounting Research*
Simmons and Gray (1969)	*Accounting Review*
Benjamin (1973a)	*Abacus*
Benjamin (1973b)	*Accounting and Business Research*
Bastable and Merriwether (1975)	*Journal of Accountancy*
Revsine and Thies (1976)	*Accounting Review*
Bastable (1976)	*Journal of Accountancy*
Arnold and El-Azma (1978)	ICAEW research monograph
Scott (1978)	Touche Ross research monograph
Picur and McKeown (1979)	*Quarterly Review of Economics and Business*
Sharp and Spires (1983)	*Accounting and Business Research*
Doupnik (1983)	University Microfilms International
Sharp (1986)	*Journal of Accounting and Public Policy*
Sander (1987)	University Microfilms International

Table 2. Countries Studied with Computer Simulation

Australia	*United States*
Sander (1987)	Bastable (1976)
Brazil	Bastable and Merriwether (1975)
Doupnik (1983)	Benjamin (1973a)
Denmark	Benjamin (1973b)
Davidson and Kohlmeier (1966)	Davidson and Kohlmeier (1966)
France	Greenball (1968a)
Davidson and Kohlmeier (1966)	Greenball (1968b)
The Netherlands	Picur and McKeown (1979)
Davidson and Kohlmeier (1966)	Revsine and Thies (1976)
United Kingdom	Sander (1987)
Arnold and El-Azma (1978)	Scott (1978)
Davidson and Kohlmeier (1966)	Sharp (1986)
Sander (1987)	Simmons and Gray (1969)
Sharp and Spires (1983)	*West Germany*
	Abel (1969)

One may well ask whether computer simulation is useful to analyze and understand international accounting issues. To help answer that question, this section gives a general description of computer simulation and its advantages relative to other research methods.

Simulation

Computer simulation involves modelling specific features of actual or potential situations that are of interest to the researcher. In accounting research, the situation is usually some type of business operation and one or more accounting methods to measure the results of that operation. The researcher usually writes a computer program that allows experimentation with various features of the business situation in a way that is generally not possible with other types of research. Programming languages include general languages, such as FORTRAN and Lotus 1-2-3, as well as those written specifically for simulation modelling.

A general objective of accounting simulation studies is to determine how and why accounting measurements differ among accounting standards under various conditions. The accounting standards considered can be alternatives in current practice or proposed standards that have yet to be practised.

Tables 3 and 4 indicate that past simulation studies have been conducted for a variety of reasons. Table 3 shows that approximately half of the studies were designed primarily to estimate the magnitudes of differences that would result from using alternative accounting methods. The other half focus on the usefulness of alternative accounting methods for specific purposes. Table 4 lists the accounting methods investigated in each study.

Table 3. Subjects of Simulation Studies

Relative differences of international conventional methods
Davidson and Kohlmeier (1966)
Relative differences of historical cost and current cost methods
Bastable and Merriwether (1975)
Bastable (1976)
Benjamin (1973b)
Revsine and Thies (1976)
Sharp (1986)
Relative differences of current cost methods
Benjamin (1973a)
Sander (1987)
Sharp and Spires (1983)
Prediction of accounting income
Simmons and Gray (1969)
Prediction of cash flows
Scott (1978)
Usefulness of accounting income for making specific decisions
Doupnik (1983)
Greenball (1973b)
Picur and McKeown (1979)
Scott (1978)
Estimation of independently calculated performance attributes
Arnold and El-Azma (1978)
Doupnik (1983)
Greenball (1968a)
Sander (1987)
Sharp and Spires (1983)

Table 4. Accounting Methods Studies with Simulation

Historical cost accounting – inventory	
Abel (1969)	FIFO, LIFO
Arnold and El-Azma (1978)	FIFO
Bastable and Merriwether (1975)	FIFO
Benjamin (1973b)	FIFO
Davidson and Kohlmeier (1966)	FIFO, LIFO, Danish revaluation
Greenball (1968a,b)	Average, also direct costing
Picur and McKeown (1979)	Average, also direct costing
Revsine and Thies (1976)	FIFO
Scott (1978)	FIFO
Sharp (1986)	FIFO, LIFO
Simons and Gray (1969)	Average
Historical cost accounting – fixed assets	
Abel (1969)	Straight-line, German rules
Arnold and El-Azma (1978)	Straight-line
Bastable (1976)	Straight-line, SYD
Benjamin (1973b)	Straight-line
Davidson and Kohlmeier (1966)	Straight-line, decl. balance
Greenball (1968a,b)	Straight-line
Picur and McKeown (1979)	Straight-line
Revsine and Thies (1976)	Straight-line
Scott (1978)	Straight-line
Sharp (1986)	Straight-line, SYD
General price level adjustments to historical costs	
Arnold and El-Azma (1978)	With and without monetary gain
Doupnik (1983)	Brazilian monetary correction
Simmons and Gray (1969)	With and without monetary gain
Current cost accounting – inventory	
Arnold and El-Azma (1978)	
Bastable and Merriwether (1975)	
Benjamin (1973a)	Average CC and date of sale
Benjamin (1973b)	Separate effects on op. income
Davidson and Kohlmeier (1966)	
Greenball (1968a,b)	Also direct costing
Picur and McKeown (1979)	Also direct costing
Revsine and Thies (1976)	
Sander (1987)	
Scott (1978)	
Sharp (1986)	
Simmons and Gray (1969)	
Current cost accounting – fixed assets	
Arnold and El-Azma (1978)	
Bastable (1976)	Separate effects on op. income
Benjamin (1973b)	
Davidson and Kohlmeier (1966)	
Greenball (1968a,b)	
Revsine and Thies (1976)	
Sander (1987)	
Scott (1978)	
Sharp (1986)	
Sharp and Spires (1983)	
Simmons and Gray (1969)	
Current cost accounting – other adjustments	
Arnold and El-Azma (1978)	Nominal and real holding gains
Doupnik (1983)	Real CC profit as criterion
Greenball (1968a,b)	Nominal holding gains
Sander	Gearing, MWCA, distributable income
Sharp and Spires (1983)	Gearing, distributable income
Scott (1978)	Nominal and real holding gains
Exit value accounting	
Picur and McKeown (1979)	With and without GPL adjustments

Some of the advantages of simulation are similar to those found in laboratory studies in the physical sciences, in which one observes the effects of experimental manipulation of suspected causes while controlling the remaining environment. Simulation is sometimes the best method for understanding the relative impacts of various underlying environmental factors and their interrelationships on the outputs of alternative accounting measurements. The advantages of simulation depend on which research issue is being studied and which alternative research method is being considered.

Alternative Research Methods

One alternative is empirical research involving published accounting data. This type of research usually has high external validity, but it is not appropriate for some issues in international accounting. One problem is that even conventional accounting data are not available in many countries as conveniently as they are in the more-developed countries. Another problem is that issues related to harmonization, comparability, and relative usefulness of accounting methods require alternative measurement of the same events. An international researcher is not likely to find published data to help study such issues.

A second research method is the field study of specific business cases. Business records may permit the researcher to recompute balances according to some accounting alternatives. Use of this method retains some external validity, but generalizability is usually limited. One reason is that some issues require data to be recomputed for many years, thus reducing the number of cases that can be considered economically. Another reason is the difficulty of identifying all underlying factors that contribute to specific results of case studies. The inability to control such factors can also obscure causal relationships whose understanding is important to the study. A final problem is that some research issues require an independently measured criterion such as "permanent earnings" or "economic income",[2] which would be impossible to measure in field studies.

At the other end of the spectrum is the analytical method used in mathematical economics. This method can provide high internal validity in the modelling of situations with modest complexity. But many international accounting issues involve more variables than can be accommodated comfortably with this type of analysis. Symbolic mathematical representations become more difficult to comprehend as the number of relationships increases, and tractability rapidly diminishes beyond one or two periods.

Advantages of Simulation

One general advantage of computer simulation is that it can be designed to overcome some of the disadvantages noted above for the alternative research methods. As discussed in the following section, various types of data can be used in simulation studies, depending on whether one is more concerned with internal or external validity. These data are usually in the form of underlying "facts" that can be manipulated in various ways to produce controlled measurements according to convention or theoretical accounting methods. Known conditions can be controlled to be "average" or "extreme", in some sense, and conditions with unknown boundaries can be varied in many ways. The simulation model can be as simple or as complex as needed to study a given research question.

A major strength of computer simulation is the ability to conduct experiments. The researcher can manipulate certain variables while controlling others. One reason for this approach is to understand why results occur. The objective often is to determine complex relationships among accounting numbers, accounting methods, and a variety of underlying conditions. Suspected causal factors can be varied systematically to conduct a sensitivity analysis of each factor's relative impact on the outcomes of interest in a particular project. This capability of simulation is especially useful for understanding multiperiod relationships.

The other side of experimentation with suspected causal factors is the ability to control conditions that are not relevant to a given research project. One may want to control all but a few conditions in order to gain a better understanding of their relationships – without being distracted by numerous other events that have no bearing on the outcomes of interest. Simulation also allows control of measurement errors that might exist in certain empirical approaches as a result of unavailability of data required by alternative accounting methods.

A third major strength of simulation is adaptability. Once the basic model has been built, it can often be modified as needed for future projects. Initial results often provoke additional "what if" questions that lead to valuable extensions of the original research question. Such extensions may involve new accounting methods, new conditions, or new criteria for evaluating the results.

Major Types of Simulation

Computer simulation can be classified by the way in which one obtains the data inputs (e.g., buying and selling prices):

(1) deterministic;

(2) stochastic; or

(3) empirical.

This section describes each type, notes studies that have used each type, and discusses the suitability of each type (and combinations of types) for various purposes.

Past Usage by Type

Deterministic simulations employ data inputs that are fixed by the researcher. In the typical case, prices are set to change at a constant rate per period. Simmons and Gray showed simulations with four sets of assumed rates for changes in prices of inventory, fixed assets, and general commodities.[3] Revsine and Thies held inflation constant while systematically varying productivity changes.[4] Other examples of deterministic simulations can be found in studies by Bastable and

Merriwether,[5] Bastable,[6] Sharp and Spires,[7] Doupnik,[8] and Sander.[9] Business growth is usually set to zero in deterministic simulations, but Simmons and Gray used a fixed pattern in growth followed by stability.

Stochastic simulations, also called probabilistic or "Monte Carlo" simulations, employ random-number generators that are contained as special functions in most programming languages. These functions are used to obtain essentially random variability of such inputs as prices, product demand, and asset levels. As explained by Arnold and El-Azma, "Instead of specifying a value for each variable for each simulation run, the researcher specifies a probability distribution for each variable, normally described by its mean value and standard deviation".[10] Stochastic variation can also be used to introduce uncertainty when the study includes a criterion related to decision-making. Simulations by Greenball and by Picur and McKeown[11] are representative of such studies.

The third type employs empirical data series as inputs to the simulation model. Empirical data simulations employ published price indices for various types of business assets, selling prices of various products, wages, interest rates and general inflation. Use of empirical data can increase external validity of a simulation. Studies employing empirical data have been conducted by Benjamin,[12] Sharp,[13] Doupnik, and Sander. The study by Davidson and Kohlmeier[14] is unusual in that it is based on the specific empirical prices and specific transactions of two actual companies; a case study extended by simulation.

Choosing the Appropriate Type of Simulation

Each type of simulation has its own strengths and weaknesses. One should choose the type that is best suited to accomplish a particular purpose of the research project.

Deterministic simulations allow maximum control, and thus tend to have the most internal validity. They are useful for identifying tendencies of certain accounting alternatives, and directions of differences among alternatives, but they are less likely to indicate representative magnitudes. This weakness can sometimes be countered, however, by including a sensitivity analysis in which results are systematically varied by changing the values of key inputs such as rate of inflation or profit margin.[15] Deterministic simulations also permit the elimination of "noise" by controlling extraneous variables. This sort of control makes it easier to trace particular effects to particular causes.

Stochastic simulation is used when the researcher wants to determine effects that result from variation in business conditions. Stochastic variation is often used in conjunction with inferential statistics for hypothesis testing. Arnold and El-Azma notes: "We use stochastic simulation in this study because it enables generalizable results to be obtained more easily and less expensively than does deterministic simulation."[16] Too much variation, however, can cause difficulty in determining what causes results, especially when severe conditions are varied simultaneously.

Empirical data can be used when the simulation's purpose is to estimate what the alternative results would have been under conditions that have actually occurred. Davidson and Kohlmeier employ firm-specific prices to estimate the effects of using European accounting for two US companies. At the other end of the spectrum is Benjamin's use of the wholesale price index for producer finished goods to estimate the effects of using alternative inventory methods. The type and number of empirical series should depend on the level of representativeness, or specificity, one desires the conclusions to have. Use of empirical data can provide more realistic results, but, as with stochastic simulation, too much variation can pose difficulties when one tries to understand what caused the results.

This does not mean that one must choose only one type of simulation for a given research project. Even if stochastic or empirical data are used in the final simulation, de-bugging is greatly facilitated by first using deterministic inputs. Deterministic simulation can also help one analyze particular relationships and develop specific hypotheses for subsequent testing with a more sophisticated analysis.[17]

Limitations of Simulation

One should also be aware of the limitations of computer simulation as a research method. Among them is a major concern noted by Revsine and Thies:

> Since the simulation model must incorporate specific firm and and environmental characteristics, the generalizability of the experimental results beyond this specific configuration of characteristics may be limited. The challenge to external validity never can be fully overcome; however, the incorporation of relatively generic characteristics may contribute to generalizability.[18]

This section considers some potential weaknesses of simulation and some possibilities for avoiding them.

It should be noted, however, that all research methods have potential weaknesses. We would not expect a single market study, or any other type of study, to provide a complete and final answer – even to a narrow question. To provide a sufficient explanation for any question, given the richness of real-world complexity, will generally require many studies using a variety of research techniques. Arnold and Hope suggest that simulation should be used to facilitate empirical tests:

> On balance we feel that the advantages of simulation suggest that it should be used, at least initially. When the relative merits of the alternative reporting methods have been clarified by simulation, the conclusions should also be tested using real world data.[19]

Conversely, one might also use simulation to corroborate (or refute) the conclusions of previous empirical studies.

Assumptions of the Model

Simulation results are limited by the assumptions of the model, both what is included and what is excluded. In commenting on one of Greenball's studies, Rappaport said,

> The inferences that can reasonably be drawn from the results of the experiment necessarily depend upon a number of critical assumptions inherent in the proposed model.[20]

A major problem for the researcher is deciding which parts of reality are critical and which parts are mere distractions, given the purpose of a particular study. Simulations should include as many complexities as are necessary to investigate the relationships of interest in that study, but they should exclude extraneous complexities of businesses and their operating environments. One must be able to distinguish between a simplifying assumption, which permits a clearer understanding of the few relationships addressed in the study, and a critical assumption that can confound or invalidate the results.

The primary distinction is whether the assumption affects a conclusion of the study. Every assumption will have some effect on the numbers generated, but, in a given study, only a few assumptions will influence the overall findings. Assumptions are not critical just because they are unrealistic. For example, it would be preferable in most cases to use one cash account even though we know that most businesses have many cash accounts. Including complicated functions for seasonality of sales, pension accounting, or income taxes would be worthwhile only if such complexities would change the conclusions of the study. Otherwise, they clutter the model and could make the relevant relationships less clear.

Scaling Ratios

Simulation results are also affected by structural and operating characteristics of the hypothetical business. For example, if one wanted to investigate the effects of using alternative inventory methods, the results would probably be misleading if cost of goods sold were simulated to be 10 percent of sales because cost of goods sold is usually much higher than that. If one wanted to know the relative impact on income, the results would probably be more useful if the ratio of income to sales were in the normal range.

Relevant characteristics of the simulated business can be made more realistic by the explicit use of various scaling ratios based on typical financial ratios for the type of business being addressed in the study. Financial ratios for many US industries are reported by Robert Morris Associates, and other ratios can be computed from the Compustat database. Similar data are available in other countries from governmental or banking organizations. Studies by Benjamin and Sharp contain explicit scaling ratios for capital intensity, inventory turnover, and other business characteristics. Similarly, Doupnik obtained empirical ratios for scaling simulated operations of four industries in Brazil.

Data Inputs

Simulation results are limited by the representativeness of their data inputs. If data are deterministic, it is sometimes desirable to include several levels of each key variable, such as the three levels of inflation shown by Bastable, from which a reader might be able to interpolate. With empirical data simulation, specific price series can be chosen to represent almost any type of business of interest in the study. Data series for many prices, wages, and interest rates are published by governments and financial publications in most of the developed countries; in the United States they are available also in binary form from Citibank and other databases.

Similar care is desirable whenever the simulation employs stochastic data. The representativeness of results of stochastic simulations depends on whether the selected stochastic parameters are representative of the population of interest. Some attention should be given to the selection of the standard deviation of each stochastic series as well as its mean. For example, results could be misleading in some studies if inflation is +15 percent in one year and −5 percent in the following year. Empirical correlations may also be appropriately used to model the relationships between selling prices and costs of the hypothetical company. All of the stochastic parameters can be based on empirical data, as Sander does with time-series models.

Other Simulation Features

Stedry explains that other features of a simulations should be appropriate to the problem being studied, and they should be clearly described so that readers can accurately evaluate the results.[21] His comments were critical of Greenball's decision-making rule, which was improved upon by Picur and McKeown.

Statistics in simulation studies are mostly descriptive, usually indicating an outcome as a percentage of a related outcome or benchmark measurement. Inferential statistics are generally not appropriate in deterministic simulation, but they can be helpful in studies that employ empirical inputs or stochastic procedures. Examples of the latter are studies by Greenball, Arnold and El-Azma, and Sander.

Suggestions for Future Research

This review of past studies suggests that computer simulation can be used to fill many gaps in our knowledge of the comparability of national accounting standards and to identify specific needs for further harmonization. There is room for follow-up studies of standards that have received some attention in the past, and there are many other standards for which there has been no systematic research. An example of the former would be a modern-day replication of the 1966 study by Davidson and Kohlmeier to test the continuing validity of their finding that US accounting alternatives yield differences between themselves as large as differences between US and Western European practices.

To continue that example, an extension of the analysis to business conditions or industries other than the two specific manufacturers studied by Davidson and Kohlmeier would be useful. Are reporting differences among US accounting standards greater than differences among West European accounting practices in general, or is that only true for a few manufacturers with specific characteristics? Once the basic simulation program is completed, it can be re-scaled to represent other types of manufacturers, or it can be modified to simulate businesses in retailing, wholesaling, farming, or other industries.

Not enough is known of the differences that result from other accounting methods: those of other countries, and those dealing with other types of transactions. Many countries are not represented in Table 2, and many types of transactions are absent from Table 4. Examples of the latter are alternative methods of foreign currency translation, accounting for subsidiary companies, interperiod tax allocation, and various types of cash-flow accounting. International interest exists for each of these current topics, and each can be investigated with simulation.

As inflation is a problem that arises periodically, there also is a need for more tests of the inflation accounting methods developed by many countries. Those methods are not identical, and it would be interesting to learn how performance measures differ among the methods of different countries. In addition to studying the effects of high inflation, the extension of Sharp's investigation of the lingering effects of past high inflation could be useful. Such extensions might consider various levels of low inflation and growth (rather than Sharp's assumptions of zero inflation and zero growth).

The many possible uses of computer simulation include investigations of potentially useful relationships among conventional and nonconventional performance measures. For example, what are the relationships among alternative specifications of "cash flow" and alternative specifications of "distributable" profit, as defined by different countries? Do all of these have potentially useful characteristics, or can some of them be rejected as not representing what they were intended to represent? One could test the alternatives under a variety of growth assumptions, ranging from a stable roll-over of all assets to discrete replacement of large groups of fixed assets.

Summary

Computer simulation is well suited to many areas of international accounting research that are concerned with the comparability and potential usefulness of alternative accounting methods. Simulation programs can be used to account for a limitless variety of hypothetical businesses with any countries' accounting standards with which the researcher is familiar. The standards can be those in current use and others that have been proposed to improve practice. They can be tested under any conditions that seem relevant, with some conditions controlled while others are manipulated experimentally.

Simulation is well suited to analyse many international accounting issues for which other research methods are not practical. One can increase external validity of the simulation by using empirical data for basic inputs, such as prices and sales volumes, which are easier to obtain empirically than accounting data prepared in accordance with alternative accounting methods. Alternatively, an advantage over mathematical and numerical analyses is the greater number of variables that can be included in simulation studies. Simulation is especially appropriate when studying complex multi-period effects of accounting methods.

This paper discusses past simulation studies and suggestions for future research. Past studies demonstrate the potential usefulness of computer simulation in a variety of contexts. Analysis of specific simulation techniques indicates that simulation has significant potential for investigations of a variety of international accounting issues of current interest.

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Accounting Standard Setting and Culture: A Comparative Analysis of the United States, Canada, England, West Germany, Australia, New Zealand, Sweden, Japan, and Switzerland

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Abstract: This paper furnishes an analysis of the standard-setting processes in several selected countries. The similarities and differences in these processes are emphasized and rationalized in terms of cultural factors among the countries. This study was conducted by an examination of the relevant international accounting literature on the subject of standard setting and by consultation with standard-setting officials and fellow academics in the various countries. While we found significant differences in the standard-setting processes among our sample countries, those differences were not surprising in light of the cultural differences among the countries. Additionally, we found a number of similarities in the standard-setting processes – e.g., most are conducted jointly by the private and public sectors.

This paper analyzes the accounting standard-setting processes in the United States, Canada, England, West Germany, Australia, New Zealand, Sweden, Japan and Switzerland. Accounting standards are principles and policies of measurement and disclosure that are followed in the preparation of financial reports. The similarities and differences in the standard-setting processes are highlighted with a view to examining the cultural aspects of each country and their implicit impact on the standard-setting frameworks. Our principal working hypothesis is that the approaches used to establish accounting standards are a function of cultural values and factors inherent in each country.

The extent to which the standard-setting process in each country is conducted in the public rather than private sector is studied. The rationale is provided for

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the particular framework used to formulate accounting standards in each country. Which party – public or private – dominates the standard setting process apparently depends on the overall environment in which financial accounting and reporting prevails, including the nature and stature of the accounting profession in each country. A standard-setting framework should meet the needs of a particular country. There are significant differences from country to country in socioeconomic, legal, and political environments as well as in traditions.[1] As such circumstances change in each country, we would expect to observe changes in the standard-setting processes.

Accounting standards are designed to achieve uniformity and comparability in financial reporting. The specific role of each party – the accounting profession, the business community, the users of financial reports, and the government – in the process of setting accounting standards ought to be clearly delineated in eachcountry. A key issue is whether the standards should be mandated by law or by the accounting profession, and whether they should be voluntary. Views on that issue can be expected to vary from country to country.

Hypotheses

The working hypotheses of this study were:

(1) The particular standard-setting process in each country is a function of the economic, political, and social environment, i.e., the country's culture and traditions.
(2) The extent to which the standard-setting process is lodged in the private rather than public sector depends on the combination of factors considered in (1) above rather than any single factor.
(3) There is a transmission of ideas on the nature and process of standard-setting from one country to another, so that parallels can be drawn among the various processes.

Methodology

This study was conducted by:

(1) an examination of the relevant international accounting literature on the subject of standard setting
(2) consultation with standard-setting officials in the various countries under review
(3) consultation with fellow accounting academicians in the various countries.

In conducting our interviews, we used a detailed questionnaire as a point of departure. The questionnaire appears in the Appendix.

Since this paper considers "culture", a composite definition of this term is necessary. Webster's *Third New International Dictionary Unabridged* (1961) offers the following definition: "The total pattern of human behavior and its products embodied in thought, speech, action, and artifacts and dependent upon man's capacity for learning and transmitting knowledge to succeeding generations through the use of tools, language, and systems of abstract thought."

This paper attempts to examine the cultural and environmental influences inherent in accounting standard-setting processes. The authors emphasize that in view of the "newness" of this subject the cultural values of each country considered in this paper are based on well-known stereotypes and intuitive speculation as opposed to empirical research. The informational content of this paper should be especially useful in teaching international accounting.[2]

Section II of this paper provides an analysis of the standard-setting processes in the United States, Canada, England, West Germany, Australia, New Zealand, Sweden, Japan, and Switzerland, with an attempt to explain the differences in these processes based on cultural factors. Section III reviews the findings of Section II and speculates on cultural influences on accounting standard-setting in general.

II. ANALYSIS

The United States

The Financial Accounting Standards Board (FASB) has been the principal standard-setting body in the United States since 1973. Established by the American Institute of Certified Public Accountants (AICPA), the major organization of CPAs in the United States, the FASB is a private independent organization, which is responsible for establishing principles or standards of financial accounting and reporting. The standards are recognized as authoritative by the Securities and Exchange Commission (see *SEC Accounting Series Release 150* in 1973). Representing the government agency to which publicly owned corporations are required to submit financial reports, the SEC has had the legal authority since 1934 to formulate accounting standards. It has largely delegated this role to the FASB and its predecessors. Public corporations are required to follow FASB standards; otherwise the SEC, which supports the standards, can bar such companies from trading their securities. In addition, auditors who are AICPA members are required to follow FASB pronouncements.

The FASB operates entirely in the "sunshine". All of its meetings are open to the public, which provides a significant opportunity to publicize its views throughout the standard-setting process. Such openness is designed to ensure that the public interest is considered in standard setting and to enable the Board to understand many different perspectives on the underlying issues and possible alternative solutions. Moreover, the FASB uses an explicit conceptual framework, including objectives, qualitative characteristics, and elements of financial-reporting information, in the process of formulating new standards and evaluating existing ones.

As for the FASB's standard-setting process, an elaborate "due-process" approach is used. For every project, an advisory task force of outsiders is appointed, the literature on the project is examined, and new research is often commissioned. A discussion memorandum is then prepared, comprehensively discussing the issues, questions, and solutions involved in the projects. The FASB circulates these memoranda to interested parties, inviting comments in writing and orally at public hearings. Thereafter, an exposure draft of a proposed statement is prepared and is widely circulated to encourage public comment. A majority of the seven board members must agree to issue an exposure draft; subsequently, another majority vote is needed to issue an accounting standard.

In the United States, standard setting is a function of private and public bodies, and combines the professional and legalistic approach. The government, represented by the SEC and at times by Congress as well, has a significant influence in the standard-setting process, which is essentially performed in the private sector. To appreciate the nature and mechanism of the American standard-setting body, i.e., the FASB, accountants should be acquainted with standard-setting frameworks in other countries and should know how cultural differences between such countries appear to affect the nature of such frameworks.

Canada

Both Canada and the United States rely on central standard-setting entities, but there is no federal Securities and Exchange Commission in Canada. Companies that are incorporated under the Canada Business Corporations Act of 1975 (see White, 1976) are required to follow the Canadian Institute of Chartered Accountants (CICA) *Handbook* (i.e., a collection, started in 1968, of explicit standards and guidelines in financial reporting, which have been promulgated since 1946), thus giving legal authority to the *Handbook*. Additionally, Administrators of Provincial Securities Commissions in Canada *National Policy Statement No. 27* (1972), requiring adherence to the *Handbook* by companies whose securities are publicly traded. The provincial commissions enforce CICA standards especially in Ontario and Quebec. In particular, the Ontario Securities Commission acts much like a provincial "SEC". Furthermore, the Toronto Stock Exchange has recently recommended that listed companies should disclose their compliance with International Accounting Standards (Cairns, 1986, P.2). Thus Canada, as the U.S., has a joint private-public framework for standard setting. A combination of legal and professional interests influences this process.

Although the AICPA is no longer the standard-setting body in the United States, the CICA remains such in Canada. Whereas the FASB is an independent standard-setting body, the Accounting Standards Committee (AcSC) is an arm of the CICA. (Table 1 furnishes a breakdown of the principal differences among the standard-setting frameworks in the countries considered in this paper.)

The Canadian standard-setting process provides for the Accounting Standards Steering Committee to allocate projects to representatives on the AcSC from three geographic sections – eastern, central, and western. The AcSC has been so organized since 1967 to expedite its work. Each section to which particular topics are assigned outlines problems, proposes solutions, and writes drafts on various subjects. For each project, the section prepares a "statement of principles", dealing

Table 1. Similarities and Differences Amount Standard-setting Frameworks in the United States, Canada, England, West Germany, Australia, New Zealand, Sweden, Japan, and Switzerland

United States	Canada	England
Nature of the Standard-Setting Body		
1. FASB:	1. AcSC:	1. ASC:
2. Seven full time, independent, well paid members.	2. An arm of CICA: 21 unpaid volunteers.	2. 21 part-time, unpaid volunteers appointed by six consultative accountancy bodies through which the ASC operates.
3. SEC overseas FASB's work.	3. Nothing comparable to SEC. The Canada Business Corporation Act (1975) asserts that financial reports of companies incorporated under this Act must be prepared in accordance with the CICA *Handbook*, thus making the AcSC the standard-setting body. Additionally, various provincial securities commissions require companies that trade securities in those provinces to adhere to CICA requirements.	3. Nothing comparable to the SEC. The British Companies Acts constitute the basic legal framework and incorporate EEC directives on financial reporting. The ASC has no official backing from an SEC-type agency.
Process of Standard Setting		
4. An external task force is used for each project.	4. External task forces are used to a limited extent.	4. A working party, much like an external task force, but consisting of consultative accountancy bodies' members, among other interested parties, is used.
5. Openness and due process are emphasized: all FASB meetings are open to the public.	5. Secrecy is emphasized: No AcSC meetings are open to the public.	5. A set of procedures to be followed, which call for public hearings and consultation with financial reports users and the press, is emphasized.
6. Research to a significant extent (e.g., the economic consequences of standards) is conducted internally or funded externally.	6. Research of other standard setting bodies is relied upon, AcSC sponsors research studies which may serve as backgrounds for subsequent standards.	6. Research studies are carried out by the consultative accountancy bodies individually.
7. A conceptual framework is used for guidance.	7. A conceptual framework is not used.	7. A conceptual framework is not used.
8. Discussion memoranda and exposure drafts are circulated to the public.	8. Only exposure drafts are circulated to the public.	8. Discussion papers, statements of intent, and exposure drafts are circulated to the public.
9. Public hearings on discussion memoranda are held.	9. Public hearings are not held.	9. Public hearings are held in accordance with the consultation plan of the working party.
10. Majority vote of FASB members to pass a standard.	10. Two-thirds vote of AcSC members to pass a standard.	10. A three-quarters majority of the whole membership of the ASC is needed to release an exposure draft, a discussion paper, and the submission for approval of a "standard" to the council of consultative bodies. For an accounting standard to be approved, it needs the full approval of the combined consultative committee board of directors. Any of the six organizations comprising the consultative committee can veto a proposed standard.

Table 1. Continued

West Germany	Australia	New Zealand
1. West German Law with some influence from the Institute of Auditors and the Chamber of Auditors.	1. The Australian Standards Review Board (ASRB), an independent body, recommends standards for approval to a governmental Ministerial Council.	1. Accounting Research and Standards Board.
2. Not applicable.	2. ASRB consists of part-time members.	2. 13 members, 10 of whom must be members of the New Zealand Society of Accountants.
3. West German accounting based on the Civil Code, the Tax Law, the Stock Corporation Law and EEC Directives.	3. A National Companies Securities Commission functions somewhat like the U.S. SEC. It enforces accounting standards approved by the Ministerial Council. Both bodies oversee the ASRB.	3. The Companies Act of 1955 provides the legal basis for financial reporting requirements.
4. External task forces are not used.	4. External parties are often requested by the Australian Accounting Research Foundation (AARF), which recommends standards to the ASRB, to prepare a discussion paper or theory monograph.	4. Functional Committees appoint project teams
5. Meetings of the Institute and the Chamber are not open to the public.	5. Meetings of the AARF, ASRB, and Ministerial Council are not open to the public.	5. Meetings are not open to the public.
6. Research is not conducted nor funded to a significant extent.	6. Research studies are generally carried out by AARF, not ASRB.	6. Reliance is largely placed on research of standard-setting bodies in other countries.
7. A conceptual framework is not used.	7. AARF intends to develop a statements of Accounting Concepts. So far, ASRB has tentatively formulated a set of criteria for evaluating accounting standards as preliminary framework for standard setting.	7. A conceptual framework is not used.
8. Discussion memoranda and circulated exposure drafts are not circulated.	8. Exposure drafts are widely circulated by AARF and ASRB to invite feedback. Due process is emphasized.	8. Exposure drafts are widely circulated to the public. Comments are solicited from interested parties.
9. Public hearings are not held.	9. Forums may be held to solicit the views of users, preparers, auditors and other interested parties.	9. Public hearings are not held.
10. Standards are recommended by the Institute, and by the Chamber on a majority vote.	10. Approval of a standard by ASRB calls for a supporting vote by at least five out of seven members of the Board. Then the Ministerial council has 6 days to veto the standard. If the standard is not vetoed, it becomes law.	10. Board decisions are usually based on affirmative vote of at least 10 members.

Table 1. Continued

Switzerland	Japan	Sweden
1. Foundation and Board for Accounting and Reporting Recommendations.	1. The function of the government essentially.	1. Accounting Standards Board, a government body created as a result of a 1976 law, and the Institute of Authorized Public Accountants, a private organization founded in 1923 and composed of public accounting practitioners.
2. 25 part-time members from auditing, accounting, employee and employer organizations, universities, public administration and others. The members are not independent in the sense that they represent their various organizations.	2. An advisory board to the Ministry of Finance (the Business Accounting Deliberation Council) whose 25 members are appointed from business, the accounting community, academia, the government, and other interest groups.	2. The board consists of business, representatives of industry, the Institute, universities, labor unions, fiscal authorities, and others; they are appointed by the government, and receive a nominal compensation. There is also a standard-setting committee of the Institute and Council which approves the Committee's recommendations; all all members serve without compensation, and must belong to the Institute. Thus, Sweden has a dual standard-setting framework.
3. General legal requirements for financial reporting and specific recommendations from the Foundation to clarify and detail existing legal requirements.	3. The Minister of Finance, through the Securities and Exchange Law, oversees the work of the Council, and appoints the Council members. These standards apply to publicly traded companies.	3. The Swedish accounting standards stem tradionally from statutory law (The Companies Act of 1975), which is largely generalized in nature.
4. External task forces may be used.	4. External task forces are not used.	4. External task forces are not used.
5. Meetings are not open to the public.	5. Meetings of the Council are not open to the public.	5. Meetings of the accounting standard-setting bodies are not open to the public.
6. Research is not conducted or funded to any significant extent.	6. Research is not conducted to any significant extent.	6. No external research is funded by either body.
7. A conceptual framework is not used.	7. A conceptual framework is not used.	7. A conceptual framework is not used.
8. Discussion memoranda are not circulated to the public, but exposure drafts are circulated to the public.	8. Discussion memoranda and exposure drafts are not circulated to the public.	8. As for the Institute, drafts and proposed standards are published, but comments are generally received only from members of the Institute. At the Board, draft standards are not published, so public response to drafts is limited to inquiries that representatives on the Board may wish to make in their organizations.
9. Public hearings are not held.	9. Public hearings are not held. However, the Council is a forum where proposed changes in accounting standards can be discussed by any interest group.	9. Public hearings are not held.
10. At least two-thirds of the Board members must agree to adopt a standard. In practice, standards are generally approved.	10. A unanimous vote is required to pass a standard.	10. Standards must be confirmed by consensus upon recommendation of the Institute's Accounting Standards Committee. At the Board, it is such a common practice to pass standards by consensus that standards which do not achieve a consensus vote have been dropped.

with the issues, alternatives, and the reasoning for each alternative. The statement of principles is then sent to AcSC associates for their comments. Each AcSC member can seek the advice of 20-25 confidential associates. Such associates may be business colleagues of each AcSC member, which may raise questions about the independence of AcSC members. Nonetheless, anyone interested in standard setting can become an associate of an AcSC member and thus become privy to AcSC positions before they are announced to the public in exposure drafts. After the entire AcSC agrees to the principles, a draft recommendation is prepared by the initiating geographic section; if two-thirds of the committee consent, an exposure draft is prepared and distributed upon request to any interested party. Comments on the exposure drafts are accepted and reviewed. The comments often come from large corporations and major accounting firms. Changes may be made in exposure drafts in light of such comments. For a final standard to be issued, it must be approved by a two-thirds vote of the AcSC members.

The AcSC holds no open meetings or public hearings whatsoever, and there is no public demand for it to do so. The AcSC does not at present indicate in each accounting standard the number of committee members who voted in favor of and against the standard; nor does the AcSC reflect the rationale for the negative votes. The reason for such confidentiality, which may be consistent with the Canadian penchant for secrecy, is to foster the AcSC's autonomy from external political pressures. The AcSC also makes limited use of outside task forces and circulates exposure drafts to the public only upon specific request, placing considerable reliance on confidential associates of each committee member in the standard-setting process. By contrast, all of the FASB's are open to the public and in each standard the number of board members who voted for and against it are specified, with the reasons for their dissents. An external task force is appointed by the FASB for each project; that has not generally been the case with the AcSC, though there seems to be a change in this regard in the last 2 years. The FASB circulates to the public all of its discussion memoranda and exposure drafts on each issue under consideration. By contrast, the AcSC circ-ulates only exposure drafts to the public. Thus, the Canadian public is not apprised of the AcSC's position on any accounting issue until late in the standard-setting process, when the exposure draft has been issued.

The AcSC bears a striking resemblance to the U.S. Accounting Principles Board (APB), the standard-setting authority in the United States from 1959 to 1973. An arm of the CICA, the AcSC has 22 part-time, unpaid members who serve 3 year terms. Although the APB, which was an arm of the AICPA, proved to be unacceptable as the standard-setting authority in the United States, the AcSC is considered the legitimate standard setter in Canada. The APB was replaced by the FASB, which has been independent of all other organizations including the AICPA, and has seven full-time, well-paid members, who serve 5 year terms.

Canadians have yet to complain openly that the AcSC lacks autonomy, in view of the fact that its members hold full-time positions in major accounting firms and other organizations. The AcSC does have a heavy, full-time workload. So too did the APB. It was the lack of independence coupled with the heavy workload, among other factors, that served to undo the APB. One must wonder how the AcSC can prevail under conditions similar to those that undermined the APB. What is suitable for Canada, however, in the realm of standard setting may well be unsuitable for the United States and vice versa, as the two countries have different cultures and traditions. Additionally, an FASB-type body may be far too costly for Canada, which has a much smaller population than the United States (25 000 000 versus 240 000 000, respectively).

Zeff (1985) observed that Canada and the United States have different fundamental cultural values:

United States:	freedom diminished by periodic need to cope with instances of unscrupulous dealing.
Canada:	freedom moderated by social justice.

In specific terms, there is a much less litigious environment in Canada than in the United States, which undoubtedly accounts for the fact that Canadian standards are more judgmental and less legally oriented than their American counterparts. Canadian accounting relies heavily on the "professional judgment" of standard setters, management accountants, and chartered accountants, much more than is the case in the United States. Canadian standards are less stringent than their U.S. counterparts, again in conformity with the accent on professional judgment. Canada tends to adopt standards on particular subjects only after the United States and sometimes Britain have implemented their own standards on these subjects, and adapts such standards eclectically. In accordance with its image as a welfare state, Canada has a comprehensive accounting standard on governmental assistance as does Britain, in contrast to the United States. There are also fewer Canadian (and British) standards, in sharp contrast to the number of American standards, again in part a result of the emphasis on professional judgment in these countries, but also a result of the fact that only a small percentage of the Canadian and British public invests in the stock market.

The differences between the Canadian and U.S. standard-setting frameworks and *modus operandi* can be partly explained in terms of an overriding emphasis on professional judgment in Canada, illustrated by the CICA's decision not to adopt and use an explicit conceptual framework or constitution of objectives, qualitative attributes, and elements of financial reporting in the standard-setting process. Another factor accounting for differences in standard setting between the two countries is the willingness of Canadians to accept the AcSC's pronouncements even though the members of this committee do not appear to be independent. Canadians are more inclined than Americans to accept authority, and less apt to debate proposed accounting standards and to take such cases to the federal and provincial governments for resolution.

In light of increased trade with the United States and the fact that U.S. institutions began to lead in accounting education, the U.S. influence in Canada began to supersede that of the British in the 1920s and 1930s. Additionally, with the immigration influx of the post World War II period, Canada has become a multicultural nation considerably less British-oriented than formerly. Furthermore, the extent of U.S. investments in Canada has increased markedly in the postwar period. Indeed, Canadian accounting appears in large part to be a microcosm of its U.S. counterpart. The influence of the United States appears to be so significant that, for example, Canada has not adopted social accounting reports, which have been adopted in several European countries, such as France, West Germany, and Britain, despite the strong, militant unions that prevail in Canada, as in Europe.

England

Zeff (1985) observed that the fundamental British cultural value is "freedom tempered by desire to preserve traditional modes of behavior (with a genius for instituting fundamental reforms swiftly, once the pressures for change reach the flash point); moderated by social justice". The British are much less inclined than Americans to experiment and make changes readily. These cultural values are implicitly reflected in the British standard-setting process. Indeed, the process described below was adopted in 1970 to meet mounting public and media pressure for reform in standard setting. As Lee (1975, p. 29) stated:

"The late 1960s witnessed a sharp and dramatic increase in the level of criticism of the accountancy profession, particularly with regard to the flexibility of accounting practice. This resulted, in 1970, in the publication of the 'Statement of Intent on Accounting Standard' in the 1970s of the Institute of Chartered Accountants in England and Wales, with its stated objectives of 'narrowing the areas of difference and variety in accounting practice'; its recommendation of 'disclosure of accounting bases' and 'disclosure of accounting bases' and 'disclosure of departures from established definitive accounting standards'; 'wider exposure for major new proposals on accounting standards'; and a 'continuing programme for encouraging improved accounting standards in legal and regulatory measures'"

Standard setting in England is the function of the Accounting Standards Committee (ASC), a private body separate and apart from the government. The ASC, much as its Canadian counterpart and the old U.S. APB in structure, enforces the British Companies Acts. Thus, as its U.S. and Canadian counterparts, standard setting is conducted in a professional and legalistic context. The ASC, established as a result of several accounting scandals and a public outcry against the use of too many accounting methods, consists of 20 part-time, unpaid members, who may not be independent in the full sense of the word, and who need not be accountants. Five of them are actually "users" of financial reports. The ASC requires each of six consultative bodies – the Consultative Committee of Accountancy Bodies (CCAB) – to nominate members to fill vacancies, and the ASC operates through these consultative bodies. The standards set forth by the ASC are not mandatory by law, in contrast to Canadian standards, even though the ASC has the authority to discipline for lack of adherence to its standards, an authority which it has yet to exert. Nonetheless, auditors note any such lack of compliance in qualified audit opinions, as does the Stock Exchange.

The British Companies Acts constitute the basic legal framework and a source of standards in the broad sense of the term. The Companies Acts incorporate Directives of the European Economic Community (EEC) on the quality and

and scope of financial reports, although the emphasis in Britain has traditionally been on the unwritten common law. In addition to the Companies Acts, court decisions on their compliance or lack thereof also constitute accounting law for all intents and purposes.

The standard setting process in England can be characterized by the following stages.[3] Topics of standards may stem from a special request from an interested party. In addition, standards may be the result of a change in the law, or may result from an international development. The ASC monitors developments by the EEC, the United States and the International Federation of Accountants (IFAC). The Planning Sub-Committee of the ASC considers suggestions made by other members of the ASC. The Planning Sub-Committee advises on the need for research, recommends the composition of working parties, and oversees their operations. It also considers and reviews documents before they are presented to the ASC for discussion and final decision.[4]

Research studies can be conducted by any of the six Consultative Committees of Accountancy Bodies (CCAB).[5] Results of such studies serve to clarify the issues and provide a basis for further decisions. This research effort is similar to that undertaken by the FASB and the Canadian Institute of Chartered Accountants. Research studies are considered by the ASC, and a decision is made on whether to pursue each study. If the ASC decides to pursue a study, a working party is formed, and the ASC instructs it on which type of document to produce. Working parties consist primarily of non-ASC members, though such parties may be chaired by an ASC member. They may produce three possible documents:

(1) a discussion paper, which is optional, exploratory, and does not contain the proposed text of a final standard;
(2) a statement of intent, which is optional, representing a public statement issued by the ASC and indicating how the ASC will consider the matter; and
(3) an exposure draft, which is compulsory, and contains a preface to the main text and also sets out the background and arguments.

The ASC must be kept informed of the working party's progress. The working party provides feedback to the ASC at an early stage in the form of:

(1) the planned technical content of the document, and
(2) a consultation plan, which identifies the groups that will be accepted and consulted with as well as the Department of Trade and Industry.

In addition, the consultation plan identifies steps for the involvement of the CCAB and provisions for public hearings and consultation with users of financial reports. It also contains a press plan and a timetable.

After the ASC has agreed to the plan in principle, the working party completes it. Findings of the working party are submitted to the ASC, which makes the necessary changes in the draft. Once the ASC is satisfied with the draft, it is approved for publication. Respondents formulate comments and submit them in writing to the ASC. The working party is "on call" during this period to defend its findings.

After the exposure period, the working party meets to consider the comments received from respondents, and prepares and presents to the ASC a summary of the reactions and recommendations. The ASC deliberates and makes a decision. Redrafting is done by the working party, and there is further consultation if required. When redrafting and consultations are completed, a final draft is presented to the ASC. Some rework may be required, which is then continued until the ASC is satisfied. The draft standard is subsequently sent to the CCAB and is usually approved later and published by it. Any of the six organizations comprising the CCAB has an effective veto over a standard it does not favor. Enforcement of the approved standard is performed by the CCAB.

The ASC prepares, but does not issue or enforce, accounting standards; that is, the role of the six bodies comprising the CCAB. The standards are fewer in number and less stringent than their U.S. counterparts, and place emphasis on accountants' professional judgment, as in Canada. Also, in conformity with the Fourth Directive of the EEC, emphasis is placed in standard setting on conveying "a true and fair view", on economic substance rather than legal form. Nonetheless, the standard-setting process in Britain, as in the United States, is influenced by economic consequences. Furthermore, there is a great deal of openness in the British framework on standard setting, as in its U.S., but not its Canadian, counterpart, especially in terms of holding public hearings.

The British standard-setting system emphasizes pragmatism and empiricism. Zeff (1985) asserted that British culture is characterized by "secrecy of process typified by a consensual approach applied in [a] quiet, dignified setting". However, the current British standard-setting process is not characterized by secrecy. It is very much a consensual process.

West Germany

Anglo-Saxon and German accounting systems have evolved on completely different bases. The Continental European tradition underlying German accounting emphasizes comparability, rationalization, and harmonization. On the other hand, the Anglo-Saxon system emphasizes pragmatism and empiricism. Additionally, it perhaps can be said the West German culture reflects the notion that "government can be trusted". Germans appear to have a lower threshold for uncertainty than Americans and British. Everything has to be ordered in Germany: standard setting is largely a governmental, legalistic function, and statutory law governs accounting standards.

The West German accounting system is based on a Civil Code, which is prescriptive in a considerably more detailed manner than is the common law in the United States and Britain, for instance. There is no FASB nor Accounting Standards Committee in West Germany. The law prescribes rules of income measurement, the format of financial statements, and the method of asset valuation. As the French system, the West German accounting system is mainly marked by its dependence on the law. It is essentially regulated by law, not by accounting principles, although in some cases these supplement the provisions of the law. The accounting principles are not codified as such, but are based largely on judicial rulings in the tax realm. The Tax Law, the Commercial Code, and the Stock Corporation Law, along with the EEC directives, govern the basic accounting principles in West Germany and the two professional organizations in that country. The Institute of Auditors (Institut der Wirtschaftsprüfer) and the Chamber of Auditors (Wirtschaftsprüferkammer), the latter regulating the former, have a secondary role in the process of standard setting.

Tax laws are very powerful in the West German accounting system as in Sweden, for example, and unless they are followed records can be rejected by the tax authorities. This situation is historically understandable, given that accounting in West Germany must be performed primarily to aid tax administration and government agencies in general. To a large extent, the figures are the same for published accounting reports and tax returns. When an audit is legally required, the format is mandated by law, and the auditor will state that financial statements conform to West German law and the company's bylaws. The audit report does not refer to fairness of the presentation of data. As a result, the accounting system in West Germany seems to lead to an interpretation of financial statement which does not necessarily serve the needs of interested parties apart from tax authorities and creditors. Recent reforms, however, along with EEC directives, seem to be changing this situation.

Although the provisions concerning accounting contained in the Commercial Code may appear to be general, they require from West German companies:

(1) the maintenance of books of account in accordance with "the principles of proper bookkeeping" (Grundsätze ordnungsmaBuchführung),
(2) the preparation of annual financial statements, and
(3) the keeping of the company's accounting books and commercial correspondence over a specific time period.

Most of the provisions of the German Commercial Code were imported from French accounting, as contained in the French Commercial Code. However, unlike the French accounting system, there is no accounting plan in the West German system. Nonetheless, the accounting systems in West Germany and France have influenced one another since the seventeenth century, particularly in the provinces of Alsace and Lorraine, which at various times have been under French or German control.

West Germany has had its own Chart of Accounts (Kontenrahmen) for many years. Intended to harmonize financial reporting among industrial companies, its importance is much less than that of the French Accounting Plan. In fact, the Kontenrahmen is oriented more towards microeconomic activity than towards social or macroeconomic activity. Its aim is to improve the uniformity in accounting among corporations.

Given that, within the EEC, harmonization of corporate accounting is an important objective, West Germany, as any other member of the EEC, must respect the EEC directives on the harmonization in financial reporting. Accordingly, the West German Stock Corporation Law recently was significantly revised following the Fourth, Seventh, and Eighth EEC Directives dealing with financial reporting. The Fourth Directive of the EEC includes rules on the format of financial reports and accounting principles to be used in their preparation as well as audit requirements for financial reports. The Seventh Directive concerns consolidated financial statements, and calls for the inclusion of all majority-owned subsidiaries in those statements. The Eighth Directive focuses on the professional competence, training, and independence of auditors and specifies requirements for the independence of auditors.

There are two professional organizations for West German chartered accountants (or Wirtschaftsprüfer): The Institute of Auditors and the Chamber of Auditors. The Institute of Auditors, which was founded in 1933 as the Institute for Auditing and Trusteeship, changed its name to the Institut der Wirtschaftsprüfer in 1932. The Institute is responsible for development of professional standards and guidelines. It also became the political representative of the entire accounting profession. It must, according to its bylaws, promote the professional development and education of its members and defend their interests. The Institute has as an objective the development of uniform accounting standards and guidelines and the assurance that those standards and guidelines are adhered to, so that the profession will continue to be respected. Although the Institute issues professional standards, its pronouncements are not mandatory, as legal sources are the primary basis for West German accounting standards. Such sources have gaps, however; e.g., in foreign currency translation. The Institute pronouncement could be made at one of the following three levels:

(1) at the level of official pronouncements which are not declared (Verlautbarungen), or
(2) at the level of pronouncements on specific topics of more than daily relevance (Stellungnahmen), and
(3) at the level of reports on the basic accounting and auditing questions describing specific situations (Fachgutachten).

The Chamber of Auditors is mainly concerned with the organization of the accounting profession in West Germany. It was created in 1961 under the control of the West German Ministry of Economics by the Public Auditor's Law of 1961 (Wirtchaftsprüferodnung). The Chamber of Auditors advises its members on technical matters and serves as an arbitrator in cases of disputes involving its members. The membership of West German Wirtschaftsprüferin the Chamber of Auditors is mandatory. Membership in the Institute is voluntary, but is normally sought.

In the final analysis, we observe that the accounting profession in Germany was really given a legal basis for the first time in 1931, when it was required that a Wirtschaftsprüfer conduct the audit of corporations and when regulation concerning the activity of audits was promulgated. The function of West German Wirschaftsprüfer is totally regulated by law. In fact, the professional law (Wirtschaftsprüferodnung) mandates them to be both independent in fact and appearance. Additional guidance can be found in the 1965 revision of Stock Corporation Law.

In summary, over the years, the accounting profession in West Germany has developed "principles of proper bookkeeping". These standards are not comparable with what are known in North America as "generally accepted accounting principles" (GAAP). The "principles of proper bookkeeping" in West Germany are standards prescribed by law, which are not codified, but rather stem from court cases brought before the government. The accounting profession is concerned mainly with compliance with the laws that prescribe accounting standards and procedures, rather more so than development of those standards and procedures. Since the "principles" are incorporated into the law, the process of changing them is difficult.

The cultural values of Anglo-Saxon countries and West Germany are quite different. West Germany has a knack for industriousness and technological accomplishment, and is quicker than England and Canada to introduce technological changes; but it also clings to traditions in many respects, and is concerned with social welfare as are Britain and Canada. In West Germany, everything has to be done in an orderly manner. Nevertheless, the foregoing views are highly simplified perspectives on complex societies.

Who is to say that the British system, for example, ought to be applied to West Germany or vice versa? There are different social, political, and economic environments in the two countries, which explain differences in their standard-setting processes. In West Germany, the standards are the law, not pronouncements of professional accounting associations, and are enforced as such. That is not the case in Britain. Thus, there is a dichotomy between the civil code and the common law, a dichotomy that militates against harmonization. Indeed, harmonization poses a threat to the national autonomy and sovereignty of each EEC member state, including Britain and West Germany. Nonetheless, the common goal of harmonization can help to bring accounting systems in different countries closer together.

Australia

The basic guidance for accounting standard-setting in Australia is the Companies Act (1981), which is disclosure-oriented, as these acts tend to be. There are two professional accounting organizations in Australia: the Australian Society of Accountants and the Institute of Chartered Accountants. These organizations set up the Australian Accounting Research Foundation (AARF), which was designed to formulate accounting standards. The procedures followed by AARF are due-process oriented. However, the standards issued by AARF have not necessarily been followed so the government was requested to enter the standard-setting process. In 1984, the Australian Standards Review Board (ASBR) was established to approve accounting standards recommended to it by AARF, or any other party or individual, and in so doing to give the standards legal backing. Thus, the standards are no longer voluntary. In addition, a Ministerial Council, including the attorney general in each state in Australia, was established to enact the standards as laws. A national Companies and Securities Commission was also established.

The ASRB takes the standards proposed to it primarily by AARF after the latter have exposed them to the public. ASRB may then re-expose each standard and conduct its own public hearings to obtain its own feedback. It then recommends standards to the Ministerial Council, which may or may not approve them in the final analysis. Once a standard becomes law, it has to be followed, barring valid reasons for not doing so.

Groups favoring or disfavoring proposed quasi-changes in accounting standards can lobby the AARF, the ASRB, and even the Ministerial Council of the Australian Government. There is a parallel here with the U.S. standard-setting framework. In particular, at least to some extent, the AARF can be viewed as analogous to the FASB, the ASRB to the SEC, and the Ministerial Council to the Congress. So here again, there is a combination of governmental and non-governmental influences in standard setting.

There is considerable openness and due process in the Australian standard-setting process, in harmony with the openness of the Australian people, who, though part of the British Commonwealth, do not feel bound to adhere to British traditions or to follow the British standard-setting approach. Australians seem much more inclined than the British to experiment and to make changes, as in the unique standard-setting process that has evolved in Australia. The accent on "due process" and "public forums" is also a key feature of the U.S. standard-setting process.

New Zealand

Statements of Standard Accounting Practice (SSAPs) are approved by the Council of the New Zealand Society of Accountants, reflecting the accounting methods to be applied in the preparation of financial statements. In so doing, it is intended that the statements will convey a "true and fair view", which (1979) "implies disclosure and appropriate classification and grouping of all material items, and consistent application of acceptable accounting principles". As in the other British Commonwealth countries, financial reporting requirements have a legal basis in New Zealand, i.e., the Companies Act of 1955. The Council of the New Zealand Society of Accountants can enforce adherence to accounting standards.

For the development of SSAPs, there is an Accounting Research and Standards Board, which consists of 13 individuals, of whom at least 10 must be members of the New Zealand Society of Accountants. The Board is representative of users, preparers, and auditors of financial reports. Decisions of the Board are generally based on a majority. Functional committees are appointed annually by the Board. In turn, these committees appoint project teams to conduct studies on particular issues.

The Board launches projects and approves their direction. A functional committee, which is responsible for executing the Board's program, is assigned to each project, and in turn, appoints a project team, reviews the draft prepared by the team, and submits the draft to the Board to be published as an exposure draft. The exposure draft is then published in New Zealand's *Accountant's Journal* and is widely circulated to interested parties. The project team and functional committee examine comments from respondents and alter the exposure draft as they deem necessary, resubmitting the exposure draft to the Board along with a memorandum indicating the specific issues discussed by the respondents and the response of the project team and functional committee to those issues, i.e., changes in the exposure draft. The project team and functional committee provide an analysis of significant differences between the proposed New Zealand standard in question and its counterparts in other English-speaking countries. Then the Board reconsiders the proposed standard, and may decide to re-expose the draft to the public. If the proposed standard is subsequently resubmitted to the Council for final approval as a standard, the proposal is also considered in terms of its economic consequences.

The standard-setting process in New Zealand is relatively open, and allows for public input early in the process, even though there are no public hearings or meetings of the Board open to the public. New Zealand, as Australia, is an "open" country, which does not hold tenaciously to British traditions. Like the Australians, New Zealanders seem eager to experiment and be innovative.

Sweden

In the various countries considered in this paper, standard setting is conducted jointly by the private and public sectors in varying degrees. This combination is also evident in Sweden, where the public sector provides the legal foundation for the standards established by the private sector, i.e., the accounting and business community.

Swedish accounting standards stem traditionally from statutory law (the Companies Act of 1975), which is largely generalized in nature. In addition, supplemental, non-binding standards are promulgated by the Swedish Accounting Standards Board, a government body created as a result of the Accounting Act (1976) to foster the development of generally accepted accounting principles. The Board consists of members from public accounting, industry, unions, taxation, academia, and beyond. Standard drafts are prepared in sub-groups of the Board, and are then discussed and confirmed by the Board as a whole. Currently being considered is the use of external task forces. Drafts of standards are not published, so public responses are confined to inquiries made by the Board members to their associates. The Board usually passes standards by consensus, and has often in the past dropped standards rather than approve them by minority vote. The standards issued by the Board are non-mandatory, voluntary guidelines. There is also the Swedish Institute of Authorized Public Accountants (Foreningen Auktoriserade Revisorer) – (FAR), a private organization founded in 1923, composed of public accounting practitioners. Standards are confirmed by the Council of FAR after recommendation by its Accounting Standards Committee. Only FAR members serve on the Council and on the Committee. Council members are elected for 2 year terms; there is no definite term for Committee members. Standards are issued by the Committee as drafts and subsequently by the Council as proposed standards and standards. No open meetings are held. Drafts and proposed standards are published and circulated to FAR members for their comments. The Institute issues non-mandatory accounting and auditing recommendations to guide its members. Standards issued by FAR are viewed as guidelines, and FAR members may deviate from the standards if circumstances so warrant. The Institute circulates exposure drafts to all of its members for their comments before formulating the standards. Members of the Institute are well represented on the Standards Board, in a sort of "interlocking directorate". The two boards co-ordinate their work and try not to duplicate it. Nonetheless, the relationship between these two bodies has never been clearly specified. The Institute has not yet adopted International Accounting Standards, but, nonetheless, attempts to reconcile and follow them. The role of the Business Community Stock Exchange Committee, also a private body, is to focus on firms on the Stock Exchange with a view to achieving uniformity among companies. This committee has existed since the early 1960s. The Stock Exchange has issued recommendations on disclosure in financial reports to assist quoted companies in enhancing the quality of their annual reports.

Swedish accounting, in view of its legal basis, follows income tax reporting, which is also the case in West Germany. Recently, Sweden has been considering a separation between accounting and income tax reporting. However, corporate management has traditionally emphasized income taxation considerations, which is indicative of Sweden's culture. That both the Swedish Accounting Standards Board, a government body, and FAR, a private body, do not issue mandatory standards coupled with the emphasis on consensus in Swedish standard setting, also reflects Swedish culture and tradition.

Given that Sweden is a small country (8 000 000 population), and has few large-scale international companies, its standard-setting mechanism may well be the most appropriate. Also, as Sweden is a socialist country, one should expect the government to play a major role in accounting standard setting to protect the public interest. Nevertheless, the existence of two private or quasi-private standard-setting bodies is somewhat unusual as far as standard-setting mechanisms go in various countries. In April 1987, FAR issued a proposal to amend the standard-setting process by establishing a new body to supersede FAR and the Swedish Accounting Standards Board for the purpose of formulating standards for quoted companies. At present, the outcome of this proposal is uncertain.

It is difficult to change Swedish accounting practice when such practice is dictated by law. Not only does taxation dominate financial reporting, but so too does company law in general. However, as a country, Sweden does not seem to cling blindly to traditions; where change is deemed to be necessary, change is made.

Japan

Standard setting in Japan is essentially the function of the government. The rationale for this is that the government controls the economy, and is considered "to know best", so why should the government not control the standard-setting as well. In Japan, the emphasis is on society as a whole rather than on the individual *per se*. The Japanese strive for consensus, which they feel protects human dignity. All views have some weight in decision-making. The percentage of citizens who vote in Japan is twice as high as in the United States. Moreover, the Japanese seem to have a low threshold for uncertainty. These cultural traits also prevail to a great extent in West Germany, apart from consensus.

The Japanese Commercial Code is administered by the Ministry of Justice, and applies to corporations in general. The Securities and Exchange Law applies to publicly traded enterprises, and is administered by the Ministry of Finance, which has become increasingly influential in financial reporting. The Ministry of Finance has an advisory board, the Business Accounting Deliberation Council; its members come from business, the accounting community, academe, and the government, among other interest groups. The council consists of some 25 members, all appointed by the Minister of Finance, and it prepares accounting standards, adherence to which is mandatory for publicly traded firms. The council represents a forum in which any interest group can discuss proposed changes in accounting standards. Various interest groups present their cases for particular standards; however, the party submitting the proposal is often specially motivated. That is not the case with the academic community; therefore, it has the most influence in these matters. After all, academic accountants can be most dispassionate and flexible in this regard (Sakuri, 1987). The standards set forth by the Council constitute GAAP and the law. In formulating terminology and establishing the format of financial statements, the Ministry of Finance also requests the advice of the council.

Whereas the council prepares standards as part of the law, the accounting profession, i.e., the Japanese Institute of CPAs, may then decide to issue detailed guidelines. Standards are enforced by CPA audit opinions and by the government. The standard-setting process is time-consuming and slow. Voluntary efforts to improve the quality of financial reporting and disclosure leave much to be desired.

All in all, Japan's accounting profession has had little experience, and limited impact, in standard setting. The Japanese Institute of CPAs provides recommendations on accounting topics, which should be followed by the publicly traded companies. The Japanese Stock Exchange is government regulated; this also in part accounts for the significant governmental impact on accounting and financial reporting. Tax regulations have had a significant effect on accounting and reporting in Japan inasmuch as a number of tax rules call for the use of the same accounting methods for both income tax and financial reporting purposes.

An important observation is that Japanese corporations with significant international commitments adhere to U.S. accounting standards.

Switzerland

Although there are legal requirements for financial reporting in Swizerland, which tend to be generalized rather than specific, there is also a Foundation and Board for Accounting and Reporting Recommendations, an independent, private organization that establishes accounting and reporting recommendations. Such recommendations or guidelines, which are voluntary, are designed to improve comparability in financial reporting by clarifying the corporation legal requirements. The Board, which was founded in 1984 on the initiative of the Swiss Institute of Certified Accountants and Audit Firms, consists or some 25 members from industry, accounting, employee and employer associations, universities, the government, and other interest groups. The Board, though independent of all other organizations, consists of part-time members, each of whom serves a 5 year term, chosen on the basis of merit and nominated by the foundation council. Each member represents his organization, but cannot dominate the Board as a consensus is needed to adopt each standard.

The standard-setting process includes the following phases:

(1) An executive committee of the Board proposes the issues that are to be examined.
(2) The Board then decides on the work agenda.
(3) The Board assigns projects to project directors (i.e., members of the executive committee).
(4) Research is conducted on each project.
(5) Project papers or discussion memoranda are prepared, though circulated only to Board members. Such memoranda are not published. There is a discussion of the first draft by the executive committee.
(6) The first draft is then presented to the Board for discussion and approval.
(7) If the draft is approved, it then represents an exposure draft, which is published and widely circulated for public feedback.
(8) The letters of comment from the public are examined by the executive committee and the Board.
(9) The statement is adopted generally by consensus. At least two-thirds of the members must agree to adopt a standard.

External task forces may be used on various projects, capitalizing on the expertise of specialists in particular areas. Although public hearings are not held, all interested parties can be involved in the standard-setting process. Minutes of meetings could be available for inspection, but there is no manifest public interest in examining the minutes.

There is an emphasis on a "true and fair view" in consolidated financial statements as well as "economic substance over legal form". Taxation plays a significant role in financial reporting. There is considerable resistance by management to additional disclosure requirements, often proposed by users and auditors. Companies often complain that auditors hide behind the standards and use them as an additional source of fee revenue. Auditors recommend that their clients comply with the standards; non-compliance may lead to qualified audit opinions in the near future.

The standard-setting process fulfills a definite need in Switzerland inasmuch as the corporation law is vague, generalized and considered by many to be obsolete. Additionally, the standard-setting process mirrors the culture of Switzerland. The economy is not heavily regulated. Switzerland is a very security-conscious country, and the Swiss do not appear inclined to take excessive risk in any endeavor. There is a great deal of emphasis on consensus which is similar to that in Japanese society. Switzerland has a very strong democratic tradition. The accounting standards are voluntary. Yet there is a combination of legal and private influences in accounting standard-setting. Switzerland is quite different from other countries. It is inward-looking, very self-protective, and fearful of foreigners and outsiders. It is no surprise that the Swiss standard-setting mechanism is in some ways unique.

As most standard-setting frameworks, the mechanism is lengthy. Tedious negotiations among interest groups are time-consuming and costly. Too often, so many compromises are necessary that the final standard turns out to be extremely vague and weak.

III. Conclusions

In differing degrees, from country to country, standard setting is conducted jointly by the private and public sectors. For most the countries considered in this paper, the standard-setting framework is a hybrid between the professional and the legalistic. However, in West Germany and Japan standard setting is essentially the role of the government, stressing the all-important role of the government in the culture of these countries.

The United States in contrast to most of the other countries considered in this paper, has many detailed, rulebook accounting standards, attempting to foresee, and provide a solution to, every conceivable accounting problem, even though the United States follows the common law as do the British Commonwealth countries.[6] The U.S. standards are so detailed and legally oriented that they resemble a tax code. Canada and Britain, on the other hand, have far fewer standards. As Stamp observed:[7]

"The approach now being developed by the FASB has many of the earmarks of that used by lawyers in civil law jurisdictions [e.g., a complete written code]. Yet it might be argued that the FASB ...is in fact doing no more than developing definitions and rules such as are commonly thought to exist in the law of property, contract and tort in common law jurisdictions.

In fact, however, there is no such codification of the common law relating to property, contract, tort, etc., throughout most of the common law countries of the world."

Where standards become statute books, strict and narrow in nature, professional judgment becomes eroded. For example, the standards in the other countries considered in this paper are more guideline-oriented than rulebook-oriented in contrast to U.S. standards. Moreover, there is a great deal of emphasis on professional judgment in the standard-setting process especially in Britain, Canada and the other other Commonwealth countries, in pronounced contrast to the United States. It might be asserted that Canadian accounting is an amalgam primarily of U.S. and British influences. To the extent that Canadian accounting does not reflect U.S. practice, the well-entrenched British influence appears to be predominant.

There are a number of differences in the standard-setting procedures and the standards themselves among the countries considered here. This is not surprising in light of the cultural differences among the countries. Nonetheless, Stevenson (1986, p.7) observed that standard setting in most countries tends to have the following characteristics:

limited experienced professional staff;

frequent changes in committee membership and staff;

inadequate communication with the community; and,

a preoccupation with brush-fires.

Those characteristics were found in most of the countries studies. Additionally, standard setting gives considerable attention to the economic and political consequences of proposed standards and attempts as far as possible, to achieve a consensus among the affected parties to promote the acceptability of the standards.

Indeed, in the countries considered in this paper, and probably world wide, the standards appear to lag significantly behind environmental and cultural changes. As Bromwich and Hopwood argued (1983):

"There is reason to believe that accounting standards and regulations often reflect the concerns of society with a lag. In other words, today's accounting reflects yesterday's concerns. Moreover, those concerns which ultimately impact on accounting are rarely stated in an explicit way, with the result that often the accounting policy-making process can only respond to them in a rather nebulous manner."

A lag also appears to exist in the setting of standards subsequent to socioeconomic and political changes, including governmental intervention. Cultural factors may inhibit changes in accounting standards, thereby limiting innovation in setting new standards. In particular, the speed of change in the United States of accounting standard setting appears to be considerably greater than in the other countries considered here, which may be attributable at least in part of cultural factors. As Muis astutely noted (1977, p. 292):

"Unlike basic research in the physical sciences, the main ingredients for definition of new standards in accounting are not to be found in empirical observations of extant practices and the subsequent inference of accounting "laws": proposals for such an exclusively inductive approach to accounting standard-setting have never been received with much enthusiasm given that standards derived from such a procedure could not possibly be geared to changing needs and evolving circumstances. Thus, accounting standards have always been influenced by value judgments, that is, by objectives which demand that standards be geared to what ought to be rather than based on what is."[8]

The cultural values considered in this paper, which are largely based on well-known stereotypes and speculation, vary markedly from one country to another. For example, the United States is much quicker than most of the other countries, apart from Japan, to introduce technological changes, and is less inclined to cling to traditions. Furthermore, the United States is less concerned with social welfare than Britain, Canada, West Germany, Australia, New Zealand, and Sweden.

Nevertheless, who is to say that the U.S. standard-setting system ought to be applied to other countries? The social, political, and economic environments in these countries can explain differences in their standard-setting processes. This paper has attempted to analyze and evaluate the disparate standard-setting frameworks in several countries. As a caveat to our findings, Muis (1977, p. 294) maintained.

"Any cross-national comparison of different systems, which by definition are affected by numerous irrational variables such as power politics, historical evolution, lack of consensus on the foundations of the discipline and environmental differences – all powerful contraints on progress towards change for the better – is extremely risky."

Table 1 provides a comparative analysis of various aspect of the standard-setting process in the United States, Canada, England, West Germany, Australia, New Zealand, Sweden, Japan, and Switzerland.

Appendix. Questionnaire on Standard Setting

(I) Which organization(s) conduct(s) the standard-setting process? Is this a governmental or private body? What is the history of this body? Does it serve to carry out particular laws (e.g., Companies Acts, EEC directives?) Is this body independent of all other bodies? If not, what reporting channel does it have? Is there, e.g., an SEC-type body that oversees its work? What is its relationship between the standard-setting body and the professional accounting and business community? What is the role of the profession (CAs, CPAs) in regard to this body?

(II) Who sits on the standard-setting body? What is its composition? Any users? Any non-accountants? How many members does it have? How are they chosen? Are they part-time or full-time? Are they "independent"? To what extent are they compensated for their work? What is their term of office? How often do they meet?

(III) Describe what the members do. Describe what staff assistants do. Describe the role of the chairperson of the body. What is the annual budget of the standard-setting body? How, specifically, is the budget funded? How is the budget allocated? To what extent does the standard-setting body fund internal or external research? How many staff members does the standard-setting body have? To what extent are they engaged in research? Is there a research director? Spell out his/her role, if so.

(IV) Describe the entire standard-setting process step by step. Is the process much the same for each issue on the agenda? How are the issues to be dealt with decided upon? Are external task forces used? Are all meetings of the standard-setting body held in the open? What is the extent of due process?

To what extent does the standard-setting body function in secret? Are discussion memoranda issued? Are public hearings held? If so, on discussion memoranda? On exposure drafts? To what extent is there "outside" input at each stage of the standard-setting process? Is a conceptual framework used? Is there an emphasis on a "true and fair view"? On "economic substance versus legal form"? What is the role of research in the standard-setting process? What is the role of taxation? What is the role of economic and political consequences? How would you characterize the politics of standard setting? Are there letter-writing campaigns by constituents? Actions taken by lawmakers to get the standard-setting body "into line"? How would you describe the speed with which the process works. Describe how an exposure draft and a standard are approved. What vote is needed to pass an exposure draft? a standard? Might more than one exposure draft be issued? If so, under what circumstances?

(V) What is the nature of the standards issued? Are the standards disclosure or measurement-oriented or both? Are there differential standards for different-sized companies? Are they mandatory or voluntary? Does the standard-setting body enforce the standards? If so, how? If not, who does the enforcement? Does the judiciary play a role in this regard? What is the role of auditors in this regard?

(VI) To what extent does the standard-setting process fulfill national economic, legal, and political needs? To what extent does the process mirror the culture of the country?

(VII) What specific improvements would you like to see in the process? What complaints have been made about the process? To what extent has the process been changed in recent years?

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1. Horngren has asserted, quite appropriately, that "the setting of accounting standards is as much a product of political action as well as of flawless logic, or empirical findings". "The Marketing of Accounting Standards," *The Journal of Accountancy* (October 1973).
2. International accounting is a subject that cannot be neglected in reputable U.S. accounting programs, as schools of business administration that are accredited to the American Assembly of Collegiate Schools of Business (AACSB) are required to include international aspects of all parts of the business curricula, including accounting. The American Accounting Association Committee on Future Education has asserted in this regard (1986, p. 181) that "the professional accountant [will not] function well in the international world of business without knowledge of different cultures".
3. This analysis draws in part upon "Review of the Standard Setting Process: A Report by the Accounting Standards Committee," *Accountancy*, July 1983.
4. The first mandatory standard in England was issued in 1971. The Accounting Standard Committee is very similar in structure to its Canadian namesake and the old U.S. Accounting Principles Board. There is no equivalent to the U.S. Securities and Exchange Commission in England or in Canada.

5. The CCAB links the following six organizations: (1) Institute of Chartered Accountants in England and Wales, (2) Institute of Chartered Accountants of Scotland, (3) Institute of Chartered Accountants in Ireland, (4) Association of Certified Accountants, (5) Institute of Cost and Management Accountants, (6) Chartered Institute of Public Finance and Accountancy.
6. Whereas the province of Quebec in Canada is governed by the Napoleonic (Justinian) Code, in which emphasis is placed on written codification of law, most of Canada relies on uncodified common law.
7. *Corporate Reporting: Its Future Evolution* (Toronto: Canadian Institute of Chartered Accountants 1980) 94.
8. The historian Barbara Tuchman, in writing about history and policy-making, observed in a more general vein (1981, p. 289):

"Policy is formed by preconceptions and by long implanted biases. When information is relayed to policy makers, they respond in terms of what is already inside their heads and consequently make policy less to fit the facts than to fit the baggage that has accumulated since childhood."

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Book Reviews

Accounting Matrix: **Mitsui vs. Mitsubishi** *by Shinzaburo Koshimura, Wako University. Translated by Sukeharu Sugano, Masao Ueno and H. W. Pennington. Maruzen, Ltd, Tokyo, 1988.*

Although the theory of measurement and reporting dominates the issues addressed by accounting scholars today, the fundamental mechanics of accounting assumed a more important role in academic discussions in prior centuries. Early expositions of double-entry bookkeeping beginning with Paciolo (1494) "were more concerned with the mechanics of debits and credits than with the underlying theory of accounts which could explain the economic rationale of the system" (Homburger and Previts, p. 9). It was not until the mid-nineteenth century that a series of studies which ultimately led to the publication in 1880 of *The Algebra of Accounts* by Charles E. Sprague, provided "a comprehensive algebraic development of the accounting equation and initiated an era of unprecedented intellectual development for the field of Accountancy in the United States" (Previts and Sheldahl, p. 2). The exposition by Sprague served as the foundation of the development of twentieth-century accounting thought.

The primary exception to the underlying dominance of the double-entry system to accounting thought was the introduction of the matrix formulation of accounting systems by Mattessich (1957 and 1958) in which he sought to develop for accounting a matrix formulation that would form "the actual basis consisting of those axioms, definitions, theorems and their proofs, which have validity for all systems of accounts" (1957, p. 329). Such a system based on matrix algebra, according to Mattessich, would, among other advantages, introduce great generality in the development of new accounting systems or the expansion of existing ones and liberate the structure of accounting such that the flow system underlying every accounting system would be revealed and new perspectives opened. This matrix formulation of accounting, in Mattessich's view, focuses on the classification of the flows inherent in accounting and on why these flows occur (1957, pp. 329-330, 348).

In spite of such advantages and the fact that Mattessich's comprehensive application of matrix algebra and formations to the system of accounting is well known in academic circles (Corcoran, 1964; Shank, 1972), the theory structure has not been widely embraced and adopted in practice. We now have, in English, a short (55 pp.) but very interesting and valuable book by the leading Japanese advocate of matrix bookkeeping in which the practical applications of this approach to the mechanics of accounting are addressed. *Accounting Matrix: Mitsui vs. Mitsubishi* by Shinzaburo Koshimura, Professor of Economics at Wako University and formerly of Yokohama National University, is a summary version of Professor Koshimura's 1981 book *Matrix Analysis of Japanese Big Businesses.* The latter book demonstrated the practical applications of the theory of the matrix approach which was presented in 1967 in *Recommendation of Matrix Bookkeeping.* The workmanlike, but serviceable, translation of *Accounting Matrix* was done by Sukeharu Sugano, Masao Ueno and H. W. Pennington.

Professor Koshimura believes that double-entry bookkeeping is an outdated technique "suitable to the 'old good' times when the method of counting depended on the abacus" (p.3). Matrix bookkeeping, on the other hand, although the "same as the double entry system in catching a transaction by 'compounded eye'" is different in that "it takes...only one entry into the cells in chart like a checkboard. This matrix bookkeeping and accounting is a system which is suitable for the computer age" (p.3). Although many may question its sweeping dismissal of traditional double-entry techniques, the value of *Accounting Matrix* lies in the demonstration of the application of the matrix approach to the accounts of two large Japanese companies. The study demonstrates that what has been in the past principally an academic exercise can be applied in a practical way to complex organizations and can provide insight into financial interrelationships that are not as easily gleaned from traditional financial statements.

Accounting Matrix consists of four chapters. Chapter I explains how to prepare and read an accounting matrix. The matrix is constructed with the top row and left column of the matrix holding the beginning balances of the balance sheet accounts. There is a row and a column for each account. Transactions are recording in interior cells. For example, if row 1 and column 1 is cash and row 6 and column 6 is sales, then a cash sale is recorded by inserting the amount of the sale in the cell identified by column 1 and row 6. A sales return, on the other hand, would be entered in the cell represented by column 6 and row 1. At the end of the period the rows and columns are extended from top to bottom and from left to right to determine, first, profit, which has a column and row of its own, and, second, the ending balances. At the beginning of the next accounting period, the right-hand column and bottom row (ending balances) of the matrix become the left-hand column and top row (beginning balances), respectively, of a new matrix for the next accounting period. The balancing of double-entry bookkeeping is thus maintained. Chapter II explores the journalizing of transactions in the accounting matrix in more detail.

Chapter III and IV are the substantive and most interesting parts of *Accounting Matrix.* In these chapters, the matrix technique is applied first to Mitsui & Co., Ltd, and then to Mitsubishi Corporation, both large and general trading (import-export) companies. The companies are then compared on several financial scales using data obtained from the matrices. Using publicly available information, Professor Koshimura develops in Chapter III a matrix for Mitsui and demonstrates the analysis of various flows, including cash flows, credit circulation, and merchandise circulation, and the matching of revenues and expenses to determine net profit. In effect, Professor Koshimura is validating assertions concerning the usefulness of the matrix format in analyzing flows made earlier by Mattessich (1957).

In Chapter IV, the matrix format is used to conduct a ratio analysis for the purpose of diagnosing "the enterprise constitution and health condition of Mitsubishi Corporation and Mitsui & Co., Ltd, from the standpoint of safety, activity, productivity and development" (p. 41). The ratios calculated are net worth to total capital, collection of accounts receivable, current ratio, turnover rate of merchandise, ordinary profits to sales, and growth rate of net worth. The two companies are then compared using a diamond graph.

Accounting Matrix is not a profound book that marks new theoretical achievements. Its objective is simple and straightforward: to demonstrate the practical application of the matrix format to the accounting transactions and the financial analysis of large companies. It has achieved this objective. To anyone who has attempted to apply the traditional double-entry system in a microcomputer/spreadsheet environment, the matrix approach as presented by Professor Koshimura has an intuitive appeal. However, the matrix formulation of accounting has not achieved the practical acceptance that its advocates foresaw or that the computer age would seem to dictate. Perhaps the publication of *Accounting Matrix* in English will stimulate renewed interest in this approach and new research into the underlying mechanics of the accounting process.

Belverd E. Needles, Jr.

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Accounting in Socialist Countries *edited D.T. Bailey. Routledge, London, 1988, 184 pp, ISBN 0-415-00429-2, £35.00.*

How is the accounting function influenced by the method used to organize a state's economy? That is the intriguing question raised in this first book of readings of accounting practices in selected socialist countries, edited by Derek Bailey of the University of Birmingham (U.K.). Bailey, who ranks as the leading Western expert on Soviet accounting, has collected a group of articles published in the *Soviet and East European Accounting Bulletin* over the past decade or so. These country studies constitute the bulk of the contents and the contributors are, in order of presentation: Gorelyi, Cuba; Hercok, Czechoslovakia; Reinecke, German Democratic Republic; Scholcz, Hungary; Jaruga, Poland; and Turk, Yugoslavia. Bailey has also included in this section a new article he has written concerning accounting in the Soviet Union, containing information on the economic reforms introduced in 1985. A three-part introductory section provides the setting and a summary chapter the conclusion.

In his opening chapter, Bailey outlines the necessary distinctions between capitalist, or *laissez-faire,* and socialist, or command, economies. Applying Kornai's model of demand-constrained versus resource-constrained economies, Bailey describes the autonomous, decision-making enterprise, whose operating rule is to expand profits, whose survival is dependent on commercial viability, and whose entrepreneur is responsive to market signals of factor inputs and product outputs. He compares this situation with that of the non-autonomous, socialist state enterprise whose operating rule is to expand production while operating at the lowest cost, and whose production problem is how best to convert material inputs to specified outputs with the production facilities and manpower at its disposal. Bailey sees these differences as affecting the structure of the accounting system, the scope of the accounting function, the processing of accounting data, the utilization of the data, and the role of the accounting specialist.

In socialist states, the accounting function is generally viewed as a retrospective instrument at the service of the central authorities. Consequently, considerable standardization and simplification of system design, accounting practice, data processing, and reporting have been introduced, mainly for control purposes. This has led to decreased levels of necessary technical skills, increased perceptions of accounting as a boring and unattractive occupation, and significant difficulties in recruiting students for accounting courses or employees for available positions. Further, the lack of high-level support for the accounting function is a main reason for the shortage of modern data-processing equipment which could help to alleviate staff shortages.

A short article by Professor Tadeusz Wierzbicki, originally written in 1980, follows. He considers the theme that there had to be a radical change in the nature of the needs for information to reverse the regression in the informational function of accounting that is occurring in command economies. Such a change depended on a greater decentralization of decision making (which Poland had just begun to introduce) through a new economic and financial system. He was, therefore, optimistic of the prospects for a new appreciation of and demand for management information at all administrative levels. The introductory section closes with an excellent article by Bailey, which first appeared in 1975, expanding on some of the East versus West themes mentioned earlier and an article by Professors Brzezin and Jaruga which traced the evolution of accounting in planned economies after the Second World War.

Bailey effectively sets the scene to illustrate with country studies how the political and economic framework of a particular society can influence the sets of demands placed on the accounting function and how, in turn, changes in these sets of demands can influence accounting's evolution. Readers will have to draw many inferences for themselves, however, because not all the articles have congruent contents and most are descriptive without offering much in the way of rationale for particular topics. Further, socialist states are constantly tinkering with their financial and accounting systems so that descriptions tend to become outdated very rapidly. Original publication dates should have been given for all articles to alert the reader to historical, rather than contemporary, information value. This is particularly relevant to the article concerning Polish accounting which describes the situation in the late 1970s. A later article encompassing the economic reforms of the early 1980s would have served as an extension of the Wierzbicki paper and provided material for discussion of the Polish accounting experience of attempting to respond to new sets of demands.

In the concluding chapter, Bailey draws together the main threads, comparing and contrasting some of the characteristics of the various accounting systems which emerged from the previous descriptions. This is a very interesting chapter which would have been enriched by additional analytical commentary. Differences in the revenue recognition principle provide a relatively simple example. In the Soviet Union, the near-cash approach to revenue realization is a control measure which curbs year-end inflations of sales figures. In Poland, a 25-day limit was imposed on sales accruals, for the same reason, after the 1981 reforms. In Yugoslavia, revenue recognition is bound with the unique role of the workers as owners. Workers' remuneration represents the residual amount after all costs, except wages, are deducted from revenues. So, revenue determination is critical for economic viability, as the new Polish regulations also recognize, and is a major reason for Yugoslavia's cash approach to revenue realization.

Other differences in accounting's functioning are more difficult to grasp and one has to search for clues. Why, one might ask, do Hungarian state enterprises enjoy considerable discretion is accounting system design? It may have something to do with the fact that in Hungary, the Ministry of Finance, which governs the accounting function in all socialist countries except the German Democratic Republic, may both initiate and determine financial policies. In the Soviet Union, on the other hand, the Ministry of Finance implements financial policies determined for it. Hungarian enterprises may therefore find it relatively easy to work with their Ministry.

Bailey's goal was to open a relatively obscure field to students and other enthusiasts of international accounting. He has met that objective well.

Maureen Berry
Associate Professor of Accountancy, University of Illinois

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[1] William A. Dymsza, Multinational Business Strategy (New York: McGraw-Hill, 1972), 49-53.
[2] Geoffrey Holmes, "Replacement Value Accounting." Accountancy (March 1972), 4-8.

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American Institute of Certified Public Accountants. Accounting Research Bulletin No. 43. New York: AICPA, 1953.
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Lorenson, Leonard and Paul Rosenfield. "Management Information and Foreign Inflation." Journal of Accountancy, December 1974, 98-102.
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Attitude Measurement in International Accounting Research: A Test of Thurstone and Likert Scaling Validity

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Key words: Attitude; Opinion; Measurement; International; Accounting; Thurstone; Likert; Methodology; Instrumentation

Abstract: Attitude measurement is a common and useful research technique for comparative studies in international accounting. The technique is useful in determining causes of differences in accounting practices world-wide as well as differences in information usage. Likert scaling has been used mostly for these purposes. The literature suggests, however, that Thurstone instrumentation may be more suitable for international studies than Likert scaling. This study, therefore, attempted to determine which of these two techniques is more construct valid, and thereby more suitable, when a research instrument created by necessity in one country is used in another. The results conflict with earlier work by showing that Likert scaling may be more effective than expected. Furthermore, the results suggest that the Thurstone method may not be as reliable as previously thought. Although these results conflict with the earlier literature, they do provide confidence in using the more statistically helpful Likert method.

The research efforts of international accounting often employ attitude measurements in comparative studies. These studies usually compare national or regional attitudes concerning accounting, finance or related business environment constructs. Examples include perceptions of the fairness of tax systems, usefulness of accounting information for internal decisions,[1] the value of continuing education for professionals,[2] and use of external reports for investment decisions.[3]

Often surveys or field experiments are used for comparative studies with instruments developed through Likert scaling. Subjects are asked to express their

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level of agreement with statements on a construct from "Strongly Agree" to "Strongly Disagree." This procedure has been widely used in accounting[4] and has been, accordingly, adopted by international accounting researchers without much debate. Likert scaling has been popular in accounting research because of the success with this technique in social psychology. Accordingly, most other methods of scaling have disappeared.

The Goal of Instrumentation

All attitude survey instruments aim to measure the level of attitude possessed by an individual and his/her group. This requires the creation of an instrument which is brief (30 or 40 items) so as not to lose the patience and attention of the respondent. This further necessitates that the instrument items be efficient, with each one contributing to the measure of the attitude level of the group. Brevity is often abused for the purpose of completeness. However, the trade-off with lengthy surveys is a low response rate, unanswered items or items which are poorly considered by the respondent. All of these impair the attitude measure. Thus, selection of a smaller set of items is necessary to achieve the best results.

Problem Statement

Likert scaling is a technique by which a group to be measured is used to develop an instrument through a pretest on a large item pool. Based upon the level of attitude of the pretest group and the distribution of the responses to each item in the item pool, confusing or ambiguous items are eliminated from the instrument. The group is then rescored using the remaining items. The instrument can then be used within the same group again at a later time.

There is, however, a problem with using the instrument in *another* group to test its level of attitude. This issue has been addressed when surrogates, such as students, are used to develop an instrument to be used later by financial analysts. Likert[5] noted that the instrument process may be only valid for the original group and probably should not be used elsewhere.

This problem may become very severe in international accounting. If an instrument is to be developed in one country, e.g. the United States, but must be administered to a second country for comparative purposes, e.g. Japan, it may be invalid. The reason is the U.S. attitude level and distribution are expected to differ from those of the Japanese respondents or the research would be precluded. As Likert scaling uses the extreme levels of attitudes within a test group to eliminate items, one extreme for the combined two-country group will be missing during the elimination process. Thus, it cannot be expected that Japanese and U.S. respondents would eliminate the same items. That is, if the instrument is created in the United States, some of the items will probably be ambiguous to the Japanese respondents and will obscure the measure.

Figure 1 illustrates the problem. If U.S. respondents have a distribution on an attitude scale from 1.5 to 3.5 with a mean of 2.5, whereas Japanese respondents are distributed from 2.5 to 4.5 with a mean of 3.5, then there will probably be a statistically significant difference in the two attitude levels. In creating the Likert instrument, however, only the two extreme attitudes of the U.S. respondents (Q_1 and Q_4) will be used to select instrument items. Thus, there may not be items in the final instrument sensitive enough to capture the higher-extreme (toward 5.0) Japanese attitudes. Further, there may be fewer items than needed to capture the lower and middle parts of the Japanese distribution. Thus, although the U.S. measure may be fairly reliable, the Japanese measure to which the U.S. one is being compared may be suspect.

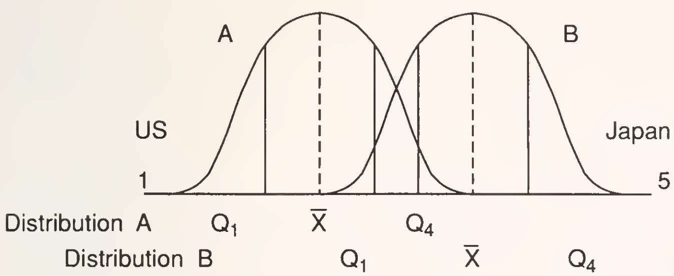


Fig. 1. Possible Distribution of Two Subsets of a Population.

Of course, the difficulty presented by the Likert process can be overcome by including both a Japanese and a U.S. group in the pretest. This is costly and still provides an instrument whose use is limited. What is really needed is an absolute measure which can be used possibly in a third country.

A lesser widely used technique called the Thurstone process provides a possible answer. Thurstone[7] used judges to classify items as to the level of attitude each measures. The judges' level of attitude and distribution of that level are not used to eliminate items. Further, Thurstone maintained that individual levels of attitude should not affect item classification. Therefore, the instrument can be created in one environment, in this case the United States, and used elsewhere. It is an absolute scale. This notion has been tested on a few social psychology constructs, notably race attitudes, and the results have supported Thurstone's claim.[8]

To date, there has been no significant work to test the validity of one method against another in accounting. Furthermore, there has been no significant work in international studies to test this issue where extreme differences in attitude can occur. If an instrument is invalid, then the results are invalid. This is important to know as both techniques have advantages and disadvantages. The Likert technique, if valid, allows statistical calculations which are very helpful, such as intercorrelation. The Thurstone method, although it is less adaptable to statistics, provides a very precise reading on attitude levels. This is because respondents are not required to answer every item but rather only those items which pertain to them. The Likert technique does not enjoy this advantage. Accordingly, it is important in international accounting research to understand the limits of these and possibly other techniques so that the researcher can choose within these limits the appropriate technique for that project.

The next two sections discuss the Thurstone and Likert instrument processes in detail and describe how the item pool in this study was developed. Readers familiar with these processes may wish to read these sections lightly. Those unfamiliar with them may wish to consult, in addition to this material, the original Likert and Thurstone works.

Thurstone Scaling

A construct is first defined. Items are then generated which are thought to be within the domain of the construct. These items come from introspection, observation, other research instruments and from consultation with others. The items should include positive, neutral and negative statements as indicators of individual attitudes. The statements should be simple and not compound.

The construct in this study is the helpfulness of consolidated financial statements. Statements include expressions of attitudes concerning consolidated financial information for different purposes. Appendix I shows the 40–item pool developed. There is no agreement on a proper number of items. Fewer than 30 may result in a small instrument. More than 50–60 items may exhaust those assisting in the creation of the instrument.

A group of judges is formed to classify each statement from one to six. If a judge classifies a statement as a one, the statement is said to indicate a low level of the attitude measured, should a respondent select that statement as being representative of his/her attitude. In this case, a statement classified as a one would indicate that the respondent had a low opinion of the usefulness of consolidated financial statements. Item 28 might be expected to be classified in that manner.

If a statement is classified by a judge as a six, the statement would indicate that the respondent has a high opinion of the usefulness of consolidated financial statements should he/she select that statement as being his/her attitude. Item 1 might be expected to classified in the high range.

Thurstone originally used 11 categories to classify statements. Most researchers agree that judges have difficulty discerning between two levels with this many classifications. There is, however, no agreement on a correct number of classifications. The choice of six in this study was simply a matter of preference due to prior use of this number.

The judges' classifications are summarized with a median calculated for each item. This is the scale value attached to each item. A measure of distribution is also calculated for each item. The measure is the distance between the first and third quartiles of the distribution and is referred to as the Ambiguity Index (AI).

Items with large AIs are considered confusing items, as they are classified throughout the scale. A large AI on a six-point scale would probably be above 2.0. There is no rule, however, for item rejection.

Items with low AIs are selected to form the final instrument. Care should be taken to include items on each part of the scale so that there are selections for most levels of the attitude. A final instrument of 25 or so items with low ambiguity would be a successful effort in this case.

It is important to note that the judges do *not* express their opinions on the construct. They merely classify the items. Accordingly, it is not always necessary to have judges familiar with the construct unless there are technical aspects involved. The construct under consideration contains technical material and required professional accountants to be judges.

The final instrument, comprised of unambiguous, prescaled items, should be arranged to avoid ascending or descending orders of scale value. Respondents are asked to read each statement and select, perhaps by circling item numbers, only those statements which describe their opinion. All others are ignored. Groups are scored by the scale value of items selected with means and distributions calculated.

Likert Scaling

As in the case of Thurstone scaling, the construct is first defined, an item pool is developed from similar sources, and a group helps to eliminate ambiguous items. Appendix II shows the Thurstone item pool converted into Likert form.

It is not necessary to have positive and negative items. Negative items, if included, must be reverse scored to produce meaningful results. Each person involved in the item selection process is asked to express his/her agreement/disagreement on a scale. The scale usually has five or six levels. The item pool at hand has five.

The original intention of this technique was to use a subset of the population for the pretest. The group is scored and divided into thirds or sometimes quartiles by means. Those in the high-score group (in this case four and five) are said to have low opinions of consolidated financial statements, whereas those in the low-score group one and two in this case) are said to have high opinions.

The two groups are compared on each item by calculating the difference in group mean on the item. The difference is called the Scale Value Difference (SVD). Items with small SVDs are considered poor discriminators between high and low levels of the attitude, as both groups answered similarly. These items are eliminated. The remaining items become the final instrument for rescoring of the group. The instrument can be used again on another similar subset of the group or the same group at a later time. Again, a successful effort would reduce 40 items to approximately 25.

As mentioned, a significant advantage of Likert scaling is its facilitation for intercorrelation. Factor analysis is also routine with this technique. This same advantage, however, also produces a disadvantage. For these purposes, respondents must answer all items. Any ambiguous items accidently remaining after the pretest are often scored in the middle of the scale, three, causing a possible central tendency to scores.

Project Method

Research instruments for international accounting are created by necessity in one national environment for use in another. To test for construct validity, it is necessary to ascertain if an instrument created in Country A would be created in a similar manner in Country B. That is, the same items should be eliminated in both countries for construct validity to be assured.

Both Thurstone and Likert instruments should be created in two (preferably more) national environments. If one method produces more similar items than the other, that method would be considered more construct or field valid and can be created in one environment for use elsewhere with more confidence.

This study used the United States and Japan. Seniors, managers and partners of a large international CPA firm in the United States were asked to create Likert and Thurstone instruments from the item pools in the Appendices. Their counterpart accountants in Japan of the same firm (all Japanese nationals) were asked to do the same after the two instruments were carefully translated into Japanese using the back-translation technique.[9,10] This technique requires translation into Japanese from English, and the translated Japanese is then retranslated into English by independent translators. Adjustments are then made.

Hypotheses

The following hypotheses were tested. In the null form,

H1: There is no significant difference between the Thurstone instrument created in the United States and that created from the same item pool in Japan.

H2: There is no significant difference between the Likert instrument created in the United States and that created from the same item pool in Japan.

Procedure

The Thurstone and Likert items of Appendices I and II were administered to the U.S. group in Philadelphia on site and a few weeks later in Tokyo on site. It is necessary to do this procedure on site, particularly for the Thurstone test, to avoid confusion. The Philadelphia (U.S.) group had 42 participants at a training session whereas the Tokyo (Japan) group had 18. The latter group was smaller than anticipated but was due to the size of the office. It is still large enough, however, to calculate reliable results.

A comparison of Thurstone instruments between the United States and Japan requires a comparison of the median and ambiguity index (AI) for each item. As the median and mean of fairly normally distributed data are similar, and the AI is a measure of dispersion, the mean U.S. and mean Japanese classifications were t-tested at the 0.05 level to test for significant differences in each item classification. Items classified similarly would have insignificantly different means and standard deviations. Large standard deviations would indicate undesirable items (large AIs) whereas small standard deviations (small AIs) would indicate desirable items. Items classified dissimilarly would be evidence of problems in construct validity.

As the actual level of attitude is expected to be different between the United States and Japan, testing for differences in Likert instruments is a slightly different matter. Here the differences between distributions formed by the high group and low group mean for each country need to be compared for each item, United States versus Japan. The 0.05 level of significance was used to test for differences in standard deviations. Two large standard deviations in this case would be evidence of large SVDs by both countries and would indicate desirable items, whereas small SVDs by both the Japanese and U.S. groups would be considered poor discriminators.

Results and Analysis: Thurstone Method

The distributions of the U.S. and Japanese Thurstone classifications for each of the 40 items, V1–V40, were examined separately for normality. Table 1 shows the kurtosis and skewness of each item for both country classifications. As skewness and kurtosis approach zero, there is higher evidence for a normal distribution. With the exception of a few items in the U.S. classification and a very few in the Japanese classification, skewness and kurtosis were tolerable. Accordingly, confidence is gained in the use of a t-test to determine significant differences in classifications.

Table 1. Thurstone Classification Test for Normal Distribution

	United States		Japan	
	Kurtosis	Skewness	Kurtosis	Skewness
V1	2.109	−0.644	−0.910	−0.140
V2	−0.619	0.157	0.717	−0.173
V3	1.496	−1.083	−0.242	−0.206
V4	−0.807	0.788	0.893	0.188
V5	6.447	2.187	0.921	1.298
V6	−0.460	0.787	−0.245	0.431
V7	4.835	−1.768	0.590	−0.188
V8	0.134	0.971	−0.725	−0.310
V9	2.426	−1.506	1.959	−1.245

Table 1. continued

	United States		Japan	
	Kurtosis	Skewness	Kurtosis	Skewness
V10	3.356	−1.626	1.959	−1.245
V11	−0.279	0.226	−0.903	−0.358
V12	0.921	−1.539	−0.383	−0.502
V13	6.084	2.237	0.323	−0.680
V14	0.122	−0.854	−1.072	−0.191
V15	8.815	2.050	−1.125	0.334
V16	1.842	−1.070	−0.370	0.917
V17	−0.244	0.521	−0.749	−0.033
V18	−0.582	−0.312	−0.250	0.276
V19	1.399	−1.351	−0.884	−0.288
V20	1.169	−1.364	−0.615	−0.477
V21	0.196	0.660	−0.195	0.503
V22	0.777	0.843	−0.920	−0.074
V23	2.167	−1.275	−1.764	−0.320
V24	2.715	1.668	−1.176	0.370
V25	6.527	−2.355	−0.581	−0.459
V26	3.211	1.692	−1.269	−0.113
V27	−0.304	0.277	3.111	1.665
V28	27.139	4.877	6.098	2.660
V29	−0.089	0.746	0.945	0.801
V30	0.263	0.694	0.197	0.518
V31	1.012	0.858	−0.198	−0.779
V32	−0.006	0.319	3.455	−1.475
V33	0.550	−0.986	−0.192	−0.484
V34	−0.448	−1.021	0.358	0.366
V35	−0.802	−0.092	0.019	−0.216
V36	−0.782	−0.149	0.024	−0.300
V37	1.471	−1.201	0.012	0.644
V38	−0.154	0.004	0.796	−1.223
V39	0.460	0.633	0.520	−0.726
V40	−0.232	−0.235	−1.007	−0.155

As the mean and median are the same in a normal distribution, the differences in means as assigned scale values were tested for significance. Of course, the medians would be slightly different and would give slightly different scale values. Table 2 shows the mean classifications for each of the 40 items for the U.S. and Japanese groups and the items that have significantly different scale values at the 0.05 level (×). Only 27.5 percent of the items were assigned similar scale values in the two countries. Given prior work showing that Thurstone scaling is generally not affected by attitude level and is reasonably absolute, this result was unexpected.

There is also no clear pattern to the differences in classifications. Items representing a high opinion of consolidated statements were not consistently rated higher or lower by one group. This was also true of items representing low opinion of consolidated financial statements. Accordingly, there is no clear difference in scale range used by the two countries.

Table 2. Thurstone Mean Scale Value Classifications: Differences Significant at 0.05 level (×)

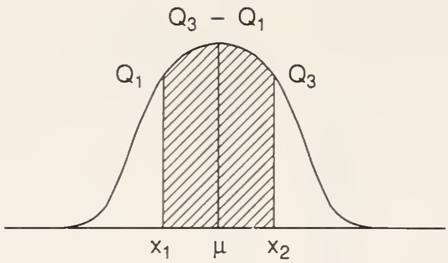
	U.S.A. $\overline{X}$	Japan $\overline{X}$	Significance		U.S.A. $\overline{X}$	Japan $\overline{X}$	Significance
V1	4.9762	4.8333		V21	2.5714	1.8889	
V2	2.8571	3.6667	×	V22	2.7143	4.3889	×
V3	4.4762	3.8889		V23	4.9286	4.6667	
V4	2.9762	4.0000	×	V24	1.9524	2.2222	
V5	2.6830	2.8889	×	V25	4.9524	4.5000	
V6	2.7619	3.4444	×	V26	2.3095	3.7222	×
V7	5.0238	4.0000	×	V27	3.2619	2.2222	×
V8	2.5952	4.2222	×	V28	1.2619	1.5556	
V9	4.5476	4.0000		V29	2.1905	2.8889	×
V10	4.6190	4.0000	×	V30	2.7381	3.3889	
V11	3.3095	4.3333	×	V31	2.2619	4.4444	×
V12	5.0476	4:4444	×	V32	2.9524	4.9444	×
V13	1.9524	3.9444	×	V33	4.5714	4.2222	
V14	3.7143	3.8889	×	V34	4.6905	3.5000	×
V15	1.6905	3.8333	×	V35	4.8095	3.9444	×
V16	4.8810	2.9444	×	V36	4.2381	4.7778	×
V17	2.8810	3/8889	×	V37	4.9048	2.1667	×
V18	3.0952	3.3889		V38	3.3571	4.9444	×
V19	4.5000	3.7778	×	V39	2.7857	3.6471	×
V20	4.9524	4.2222	×	V40	3.8810	4.6111	×

Items classified similarly: 11/40 or 27.5 percent.

Items classified disimilarly: 29/40 or 72.5 percent.

The Thurstone Ambiguity Index used as the criterion to accept or reject items for an instrument is the distance between the first and third quartiles of the distribution. Within that range 50% of the classification are located. As shown in Fig. 2, that is the distance between 0.675 standard deviations above and below the mean (50 percent of the area under the curve). The acceptable ambiguity index is a choice left to the researcher. The larger the AI, the less confidence the researcher can have in the item. Most researchers would agree than an AI of 1.00 is excellent and 1.50 is fairly tolerable and for many the upper limit. Some researchers accept 2.00 but usually only if the classification choices are higher than six. As shown in Fig. 2, a maximum standard deviation of 1.11 would meet the criterion of an AI of no more than 1.50 and a maximum standard deviation of 1.48 would satisfy an AI limit of 2.00.

The standard deviations of the U.S. and Japanese classifications are shown in Table 3, along with their acceptance or rejection at the 1.50 and 2.00 AI levels. All items were acceptable for an instrument for both the Japanese and U.S. instruments at the 2.00 level. This shows that the 2.00 level is probably too high. At the 1.50 level, 72.5 percent of the items were acceptable for the U.S. instrument, whereas only 27.5 percent were acceptable for the Japanese one. In addition, less than half of the items were classified in the same manner as acceptable or not for the instrument by both countries.



$u - x_1 = 0.675$ std. dev. 25% area (from Clark
$x_2 - u = 0.675$ std. dev. 25% area and Schkade [6])

1.35 std. dev. = 50% area

$x_2 - x_1 = 1.50$ std. dev. = 1.11 as 1.35 (1.11) = 1.50
$x_2 - x_1 = 2.00$ std. dev. = 1.48 as 1.35 (1.48) = 2.00

Fig. 2. Area of the Ambiguity Index.

Table 3. Comparative Thurstone Ambiguity Indices

	U.S.A s.d.	Japan s.d.	AI Level 1.50 s.d. 1.11		AI Level 2.00 s.d. 1.48	
			U.S.A.	Japan	U.S.A.	Japan
V1	1.297	0.924	R	A	A	A
V2	1.026	1.085	A	A	A	A
V3	0.773	1.410	A	R	A	A
V4	1.316	1.283	R	R	A	A
V5	0.949	1.231	A	R	A	A
V6	1.031	1.381	A	R	A	A
V7	1.024	1.283	A	R	A	A
V8	1.149	1.555	R	R	A	A
V9	1.087	1.085	A	A	A	A
V10	1.058	1.085	A	A	A	A
V11	0.811	1.328	A	R	A	A
V12	0.987	1.149	A	R	A	A
V13	1.147	1.259	R	R	A	A
V14	1.111	1.231	R	R	A	A
V15	0.749	1.383	A	R	A	A
V16	0.889	1.434	A	R	A	A
V17	1.041	1.132	A	R	A	A
V18	1.100	1.290	A	R	A	A
V19	0.969	1.003	A	A	A	A
V20	1.324	1.215	R	R	A	A
V21	0.991	1.410	A	R	A	A
V22	0.286	0.979	A	A	A	A
V23	0.867	1.328	A	R	A	A

Table 3. Continued

	U.S.A s.d.	Japan s.d.	Al Level 1.50 s.d. 1.11		Al Level 2.00 s.d. 1.48	
			U.S.A.	Japan	U.S.A.	Japan
V24	1.229	1.114	R	R	A	A
V25	0.909	1.200	A	R	A	A
V26	1.093	1.320	A	R	A	A
V27	0.828	1.309	A	R	A	A
V28	0.828	1.464	A	R	A	A
V29	1.065	1.278	A	R	A	A
V30	1.231	1.335	R	R	A	A
V31	0.912	1.247	A	R	A	A
V32	0.882	0.998	A	A	A	A
V33	1.112	1.166	R	R	A	A
V34	1.137	1.295	R	R	A	A
V35	0.862	1.056	A	A	A	A
V36	0.790	0.808	A	A	A	A
V37	0.958	0.924	A	A	A	A
V38	1.055	1.211	A	R	A	A
V39	0.951	1.115	A	R	A	A
V40	1.173	1.037	R	A	A	A

A = Accept item for instrumentation.
R = Reject item for instrumentation.

	1.50 level	2.00 level
Items acceptable U.S.A.	29 72.5%	40 100%
Japan	11 27.5%	40 100%
Similar classifications (both accept/reject)	18 45.0%	40 100%

These results show that the item classifications of the Japanese group are markedly different from those of the U.S. group. Scale values were assigned differently and item choices for the final instrument would be made differently. Accordingly, H1 can be rejected. The Thurstone instrument from the same item pool would be very different in Japan from that in the United States.

Another possible consideration should be mentioned at this point. The U.S. acceptance level of items of 72.5 percent at the 1.50 level is quite usual for item analysis. Low acceptance of items casts doubt on the construct validity of the item pool. Thus, the much lower Japanese acceptance level of items raises such a concern. The item pool was generated by a U.S. researcher whose own cultural bias may have entered into item development, causing higher ambiguity for the Japanese. If so, this shows that item pools may have to be developed by a group of researchers so that all environments where the instrument is intended for use are represented. In this case, a Japanese national familiar with this research technique might have been helpful in the development of an item pool for a Thurstone instrument.

Results and Analysis: Likert Method

The Japanese and U.S. distributions for each item, V1-V40, were separately examined for normality. Kurtosis and skewness for each of the variables are shown in Table 4. Both country distributions had relatively low kurtosis and skewness.

Table 4. Likert Classification Test for Normal Distribution

	United States		Japan	
	Kurtosis	Skewness	Kurtosis	Skewness
V1	−1.311	−0.249	−0.101	−0.093
V2	−0.365	−0.680	−0.521	−0.797
V3	−0.534	0.647	−0.439	0.690
V4	−0.758	−0.484	−0.566	−0.110
V5	−1.184	0.233	0.335	1.058
V6	1.001	0.947	−1.119	−0.201
V7	−0.689	0.778	−0.529	−0.170
V8	−0.974	0.303	−0.704	−0.879
V9	0.338	0.906	0.201	0.595
V10	0.787	0.906	0.201	0.595
V11	0.334	0.028	−1.789	0.000
V12	−0.545	0.489	1.717	0.880
V13	−0.013	0.513	0.643	−0.874
V14	−0.955	0.042	−1.392	0.106
V15	−1.213	0.201	−1.242	0.000
V16	0.222	0.796	−1.314	−0.083
V17	−0.735	−0.419	−1.176	0.370
V18	−0.537	0.419	−0.920	−0.074
V19	0.789	0.554	−1.980	0.120
V20	−0.266	0.343	−0.411	−0.230
V21	2.509	1.360	1.313	1.224
V22	0.002	0.655	−1.067	0.122
V23	0.896	1.151	−0.706	0.852
V24	3.317	1.339	−0.161	0.891
V25	1.614	1.226	−0.143	−0.041
V26	0.078	1.106	−0.809	−0.263
V27	−0.274	−0.574	−0.521	−0.797
V28	3.232	1.767	18.000	4.243
V29	−0.081	0.390	0.748	0.795
V30	−0.849	0.156	−0.606	0.461
V31	−1.699	0.047	−0.811	−0.503
V32	1.209	−0.513	2.103	−1.297
V33	−0.665	−0.101	−0.871	0.324
V34	−0.324	0.791	−0.192	0.484
V35	2.771	1.096	−0.337	−0.280
V36	−0.005	−0.023	−0.143	0.041
V37	0.681	0.348	−1.190	0.000
V38	0.565	0.451	1.874	1.443
V39	−0.025	−0.177	−2.199	−0.244
V40	−0.898	0.311	1.906	0.873

The Likert procedure requires item comparison between high-attitude and low-attitude respondents on each item. For this purpose, respondents were ranked by their mean score on all the items. Items answered similarly are discarded as they are considered poor discriminators between those with high and those with low attitudes. Table 5 shows the country respondents who comprised the high group and low group for each country, using the high and low 25 percent, high and low third, and high and low 40 percent of respondent mean scores.

Table 5. Descending Means for Likert Item Selection (Ascending Scores Low to High)

United States CN		$\bar{X}$		Japan CN	$\bar{X}$		
42		4.1750		49	3.1750		
3		3.2250		43	3.0500		
4		3.2250		47	3.0000	25 percent test	
28		3.1795	Low scores	60	3.0000		Low scores
30		3.1250		48	2.9750		
8		3.0500		53	2.9750	$33\frac{1}{3}$ percent test	
17	25 percent test	2.9750		51	2.9500	40 percent test	
27		2.9500		50	2.8250		
2		2.9259		52	2.8250		
24		2.9250		54	2.8250		
6		2.8750		56	2.8250		
36		2.8460		45	2.8000	25 percent test	
7	$33\frac{1}{3}$ percent test	2.8250		44	2.7750	$33\frac{1}{3}$ percent test	
39		2.8250		57	2.7250		
21		2.7750		55	2.6500		
25		2.7750		58	2.6316	25 percent test	
1	40 percent test	2.700		46	2.4750		High scores
32		2.7000		59	2.2250		
26		2.6923					
37		2.6923					
41		2.6750					
13		2.6500					

Table 5. Continued

CN	United States	$\bar{X}$	
18		2.6500	
40		2.6500	
11		2.6410	
14		2.6250	
23	40 percent test	2.6154	
5		2.6000	
15		2.6000	
19	33 1/3 percent test	2.6000	
22		2.6000	
31		2.6000	
20		2.5750	
12		2.5500	
16		2.5000	
33	25 percent test	2.5000	High scores
35		2.4872	
38		2.4500	
34		2.4000	
9		2.3750	
29		2.3500	
10		2.1500	

	United States	Japan
40 percent test no. of cases	34	14
33 1/3 percent test no. of cases	28	12
25 percent test no. of cases	22	10

CN = case number

The Scale Value Difference (SVD) or distance between the high group item mean and low group item mean is used to determine the discriminating ability of each item. Items with large scale value differences are considered good discriminators whereas items with small SVDs are considered poor discriminators. There is no general criterion or rule to determine large and small.

To determine if items were classified similarly, large or small, by both countries, each country's high and low group were combined and an F-test of the U.S. and Japanese resulting standard deviations was performed. Two large standard deviations (insignificantly different) would be indicative of the results in both countries having large scale value differences. Two small standard deviations (insignificantly different) would be indicative of small scale value differences for both sets of results. Significantly different standard deviations are evidence of differences in assessing the discriminating ability of items.

The F-test was performed using the high and low 25 percent, third, and 40 percent groups for each country. Table 6 shows consistent results from the three tests at the 0.05 significance level. On all three F-tests, over 87 percent of the items had similar distributions between the Japanese and U.S. groups. Accordingly, calculated country scale value differences could be expected to be similar for a large majority of the items.

Table 6. Comparative Standard Deviations as Scale Value Differences: Differences Significant at 0.05 Level (×)

	High–Low 40% test			High–Low 33.3% test			High–Low 25% test		
	U.S.A.	Japan	Sig.	U.S.A.	Japan	Sig.	U.S.A.	Japan	Sig.
V1	0.946	0.663		0.951	0.577		0.996	0.568	
V2	0.939	1.109		0.959	0.966		1.008	0.994	
V3	1.023	1.325		1.013	1.368		1.097	1.509	
V4	1.130	1.019		1.156	0.966		1.100	0.823	
V5	1.274	1.383		1.345	1.485		1.356	1.434	
V6	0.855	1.027		0.891	0.985		0.885	0.919	
V7	1.253	1.141		1.240	1.084		1.270	1.101	
V8	1.261	0.929		1.292	0.965		1.340	0.994	
V9	1.129	0.756		1.111	0.798		1.229	0.843	
V10	0.834	0.938		0.865	0.985		0.798	1.059	
V11	0.952	1.284		0.944	1.311		0.951	1.430	
V12	1.149	0.829		1.213	0.754		1.238	0.789	
V13	0.938	1.082		0.967	1.165		0.920	1.252	
V14	1.012	0.829		0.974	0.834		0.954	0.919	
V15	1.066	1.225		1.082	1.138		1.125	1.033	
V16	0.925	1.109		0.949	1.036		0.988	0.882	
V17	0.991	1.204		0.985	1.165		0.982	1.229	
V18	0.996	1.069		1.012	1.155		1.043	1.252	
V19	0.808	0.949		0.774	0.953		0.850	0.943	
V20	0.736	0.616		0.753	0.603		0.778	0.568	
V21	0.898	1.160		0.786	1.243	×	0.822	0.876	
V22	0.936	1.082		0.872	1.055		0.832	1.075	
V23	0.992	0.760		1.021	0.793		1.076	0.707	
V24	0.830	1.122		0.865	1.030		0.920	0.943	
V25	0.961	0.730		1.018	0.793		1.063	0.738	
V26	0.662	1.251	×	0.632	1.337	×	0.656	1.287	×
V27	0.843	1.099		0.841	1.115		0.834	1.197	
V28	0.884	0.267	×	0.930	0.289	×	0.974	0.316	×
V29	1.024	1.139		1.045	1.193		1.080	1.229	
V30	1.023	1.051		0.967	1.115		1.014	1.054	
V31	0.866	1.204		0.860	1.138		0.878	1.160	
V32	0.570	0.914	×	0.566	0.985	×	0.515	0.707	
V33	1.019	0.893		0.981	0.973		1.058	0.919	
V34	0.945	1.139		0.097	1.193		0.964	1.155	
V35	0.799	0.975		0.780	0.996		0.839	0.994	
V36	0.914	0.469	×	0.797	0.492		0.752	0.483	
V37	0.808	0.770		0.817	0.793		0.798	0.816	
V38	0.717	1.051		0.731	1.115		0.793	1.155	
V39	1.019	0.497	×	1.048	0.492	×	0.951	0.422	×
V40	0.992	0.770		0.912	0.793		0.184	0.149	

	40% test	33.3% test	25% test
Items with similar SVD United States and Japan	35 87.5%	35 87.5%	37 92.5%

The standard deviations of both the U.S. and Japanese groups are fairly low. This indicates that the high- and low-attitude holders are not very different from each other in both countries. This is due to the nature of the construct and the homogeneity of the test groups. Still, there is enough consistency in the results for some observations.

Table 7 shows the differences between the mean scores on all items of the high and low 25 percent groups for both the United States and Japan. The mean difference in attitude in 0.699 for the U.S. group and less for the Japanese group. This means that the average scale value difference for all items separating these two quartiles is 0.699 for the U.S. group and 0.499 for the Japanese group. If 0.699 is used as an acceptance criterion for items, then items with a standard deviation less that 0.519 (1.35 s.d.× 0.519 = 0.700), distance between high and low 25 percent groups, are likely to have smaller scale value differences than 0.699 and should be eliminated. Accordingly, after elimination of these items, mean score differences should be improved. This criterion is greater than needed to give assurance that the first- and fourth-quartile mean differential of the Japanese results will improve.

Table 7. 25% High–Low Test; Camparative Scale Value Differences

SVD Level:	0.700		0.900		1.000		1.250	
s.d.:	0.519		0.667		0.741		0.926	
	U.S.A.	Japan	U.S.A.	Japan	U.S.A.	Japan	U.S.A.	Japan
V1	A	A	A	R	A	R	A	R
V2	R*	A	R*	A	R*	A	R*	A
V3	A	A	A	A	A	A	A	A
V4	A	A	A	A	A	A	A	R
V5	A	A	A	A	A	A	A	A
V6	A	A	A	A	A	A	R	R
V7	A	A	A	A	A	A	A	A
V8	A	A	A	A	A	A	A	A
V9	A	A	A	A	A	A	A	R
V10	A	A	A	A	A	A	R	A
V11	R*	A	R*	A	R*	A	R*	A
V12	A	A	A	A	A	A	A	R
V13	A	A	A	A	A	A	R	A
V14	A	A	A	A	A	A	A	R
V15	A	A	A	A	A	A	A	A
V16	A	A	A	A	A	A	A	R
V17	A	A	A	A	A	A	A	A
V18	A	A	A	A	A	A	A	A
V19	A	A	A	A	A	A	R	A
V20	A	A	A	R	A	R	R	R
V21	A	A	A	A	A	A	R	R
V22	A	A	A	A	A	A	R	A
V23	A	R*	A	R*	A	R*	A	R
V24	A	A	A	A	A	A	R	A
V25	A	A	A	A	A	R	A	R
V26	A	A	R	A	R	A	R	A
V27	R*	R*	R*	R*	R*	R*	R	R*
V28	A	R	A	R	A	R	A	R
V29	A	A	A	A	A	A	A	A
V30	A	R*	A	R*	A	R*	A	R*
V31	A	A	A	A	A	A	R	A

Table 7. Continued

SVD Level:	0.700		0.900		1.000		1.250	
s.d.:	0.519		0.667		0.741		0.926	
	U.S.A.	Japan	U.S.A.	Japan	U.S.A.	Japan	U.S.A.	Japan
V32	R	A	R	A	R	R	R	R
V33	A	A	A	A	A	A	A	R
V34	A	A	A	A	A	A	A	A
V35	A	A	A	A	A	A	R	A
V36	A	R	A	R	A	R	R	R
V37	A	A	A	A	A	A	R	R
V38	A	A	A	A	A	A	R	A
V39	A	R	A	R	A	R	A	R
V40	R	R	R	R	R	R	R	R

A, Accept item for instrumentation.
R, Reject item for instrumentation.
R*, Reject item due to reverse scoring within group.

Average Scores on All Items

	$\overline{X}$	
	United States	Japan
Low	3.148	3.040
High	2.449	2.541
Diff.	0.667	0.499

		SVD							
		0.700		0.900		1.000		1.250	
Accepted items	United States	35	87.5%	34	85.0%	34	85.0%	20	50.0%
	Japan	33	82.5%	31	77.5%	29	72.5%	20	50.0%
Similarly classified items		31	77.5%	29	72.5%	29	72.5%	17	42.5%

Using the 0.519 standard deviation criterion (0.700 SVD), 77.5 percent of the items were classified similarly, and both countries had over 82 percent acceptance rates for items. Using 0.741 s.d. (0.900 SVD) as the criterion, considerably higher than the average scale value difference in both countries, the U.S. and Japanese classification similarity rate is 72.5 percent, and both item acceptance rates are still over 77 percent. Only when 0.926 s.d. (1.25 SVD) is made the criterion do the similar classification and acceptance rates fall significantly. This later criterion is very high, given the nature of the distributions being studied. Thus, rejection of H2 is inappropriate at this time. The similarity in classification is surprising, as it is contrary to the literature recommending Thurstone over Likert scaling[8,11] for circumstances such as international studies.

Conclusions

The small differences between the high- and low-attitude groups in both countries very probably contribute to the Likert success rate. Thus, a study is needed in which there exists a wide range of opinions on an accounting construct to increase the differences between high- and low-attitude group mean scores. The consistent similarity in classification, however, does provide some confidence in using the Likert technique in international studies. This is encouraging, as intercorrelation and factor analysis can be used easily with Likert scaling. Particularly important is the use of factor analysis to explore possible patterns of responses, as this is a common need in international studies.

The Thurstone results were very surprising. Perhaps a different result would have occurred if the item pool had been created with a Japanese researcher. This cultural bias, however, should have affected the classification of Likert items in a similar manner. If such an effect is present, the impact appears to have been less on the Likert technique. Again, one study such as this using only two countries cannot refute the use of Thurstone scaling for international studies.

This study has attempted to determine the more appropriate technique for international accounting studies which require attitude measurement. The results are very different from findings in other fields but are not conclusive in themselves. They do, however, demonstrate the need for a more thorough study. Without further work, there remains a risk of an inadvertent choice of an improper scaling technique, which could cause unexpected construct measurements.

Appendix I. Thurstone Instrument: English Version

Below are statements about accounting for consolidations. Rate each statement by circling one number as to the degree of trust and confidence in consolidated financial statements each measures from low trust and confidence (1) to high trust and confidence (6). That is, if someone selected that statement as being representative of his opinion, that statement would indicate the level of trust and confidence they have in consolidated statements. *Important*: I am only asking you to rate the statement and *not* to express your opinion on accounting for consolidations.

	Low trust Measure					High trust Measure
1. Consolidated statements are excellent in understanding a combined company's cash flow.	1	2	3	4	5	6
2. While combined statements are in general quite useful, I am not sure if the equity method is appropriate.	1	2	3	4	5	6

3. Consolidated income statements are usually quite reliable in predicting a firm's earning capabilities. 1 2 3 4 5 6
4. Information about segments is much more useful than consolidated information. 1 2 3 4 5 6
5. Consolidated balance sheets are less useful than individual company balance sheets. 1 2 3 4 5 6
6. Most information contained in consolidated statements could be more effectively placed in parent company notes to financial statements. 1 2 3 4 5 6
7. Consolidated financial statements *should* be required for all companies owning a majority of another's stock. 1 2 3 4 5 6
8. Intercompany transactions are *not* well understood when consolidated financial statements are prepared. 1 2 3 4 5 6
9. Consolidated financial statements along with other information are useful in divisions to make loans to a parent company. 1 2 3 4 5 6
10. Consolidated financial statements along with other information are useful in decisions to buy parent company stock. 1 2 3 4 5 6
11. Consolidated financial statements are proper for some industries but not all industries. 1 2 3 4 5 6
12. When I consider investing in a company, I like looking at consolidated statements. 1 2 3 4 5 6
13. I don't feel comfortable with consolidated earnings per share. 1 2 3 4 5 6
14. As long as the audit report is unqualified, I am confident in and can use consolidated financial statements. 1 2 3 4 5 6
15. Consolidated statements just do *not* help in understanding the combined company's cash flow activity. 1 2 3 4 5 6
16. In general, consolidated financial statements describe quite well the combined company. 1 2 3 4 5 6
17. While consolidated statements present fairly the company, they still don't provide the investor with adequate information. 1 2 3 4 5 6
18. The audit report and notes to financial statements are more useful than the financial statements themselves. 1 2 3 4 5 6
19. Current accounting procedures for combined companies are quite good. 1 2 3 4 5 6
20. Current disclosure for combined companies is excellent. 1 2 3 4 5 6

21.	Relatively small companies which own the majority of another company's stock should *not* be required to consolidate.	1	2	3	4	5	6
22.	Segment information is more appropriate for small parent companies than consolidated information.	1	2	3	4	5	6
23.	Consolidation should be required for all large parent companies.	1	2	3	4	5	6
24.	Audit reports on consolidated companies are *not* reliable for investors and lenders.	1	2	3	4	5	6
25.	Comparative consolidated income statements are of major importance for good investment and lending decisions.	1	2	3	4	5	6
26.	Consolidated statements with foreign subsidiaries distort parent company income and net worth.	1	2	3	4	5	6
27.	Consolidated financial statements are *no* better or *worse* than individual statements for parent and subsidiaries.	1	2	3	4	5	6
28.	We should end consolidation accounting.	1	2	3	4	5	6
29.	The cost method without consolidation is the way to report parent operations.	1	2	3	4	5	6
30.	The equity method without consolidation would be an effective way to present parent company holdings.	1	2	3	4	5	6
31.	Current consolidation accounting lacks in the area of financial disclosure	1	2	3	4	5	6
32.	There is room for improvement in accounting for acquisitions and mergers.	1	2	3	4	5	6
33.	Ratio analysis is quite effective on combined financial statements.	1	2	3	4	5	6
34.	The simplicity of combined company statements is extremely helpful.	1	2	3	4	5	6
35.	I understand the contents of consolidated financial statements.	1	2	3	4	5	6
36.	Accounting for mergers and acquisitions is appropriate mostly for large firms.	1	2	3	4	5	6
37.	The investing public should be pleased with consolidated financial statements.	1	2	3	4	5	6
38.	The information presented in combined statements is good but *cannot* stand alone.	1	2	3	4	5	6
39.	Information about a firm's debt payment ability is better explained through segment reporting.	1	2	3	4	5	6
40.	Consolidated information is as good as its component information.	1	2	3	4	5	6

Appendix I (Continued). Thurstone Instrument: Japanese Version

以下 に連結会計についての意見が述べてあります．それぞれ の連結財務諸表に関するあなたの信頼度を．１～６（１：あまり信頼できず確信がもてない、６：信頼でき確信がある）の選択範囲の中から選んで下さい。つまり、ある文についてあなたが同意するのであれば，あなたは連結財務諸表に対して信頼と確信を持っていることになります。

（注）あなたの意見を１から６までの番号で示してください。文章で答える必要はありません。

１．	連結財務諸表は親子会社全体の運転資本を理解するのには最高の手段である。	1	2	3	4	5	6
２．	連結財務諸表は一般的に便利とされているが、持分法が適応しているか定かではない。	1	2	3	4	5	6
３．	連結損益計算書は、普通、企業の将来収益力の予測にあたって信頼できる。	1	2	3	4	5	6
４．	セグメントに関する情報は、連結情報より便利である。	1	2	3	4	5	6
５．	連結貸借対照表は各企業の貸借対照表に比べて使いにくい。	1	2	3	4	5	6
６．	連結財務諸表に含まれるほとんどの情報は、親会社の財務諸表脚注に有効的に表示されている。	1	2	3	4	5	6
７．	連結財務諸表は、過半数の株式を保有する会社が作成すべきである。	1	2	3	4	5	6
８．	連結会社間の取引は、連結財務諸表が作成された場合，理解されにくい。	1	2	3	4	5	6
９．	連結財務諸表に伴う他の情報は、親会社に対して貸し付けをするか否かの判断をする際、大変便利である。	1	2	3	4	5	6
１０．	連結財務諸表に伴う他の情報は、親会社株式の売買を行うか否かの決定する際に大変便利である。	1	2	3	4	5	6
１１．	連結財務諸表はある種の業種には適しているが、全ての業種に適しているとは限らない。	1	2	3	4	5	6

１２．	私が投資をする際には、連結財務諸表を調べることにしている。	1	2	3	4	5	6
１３．	連結財務諸表の一株当り利益には不安を感じる。	1	2	3	4	5	6
１４．	会計監査報告書が適性意見である限り、私は確信を持って結財務諸表を使用する。	1	2	3	4	5	6
１５．	連結財務諸表は合被連結社の運転資本活動を理解するのには役立たない。	1	2	3	4	5	6
１６．	一般的に連結財務諸表により、被連結会社をよく知る事ができる。	1	2	3	4	5	6
１７．	連結財務諸表は公正に会社の状態を示す一方、それらは投資家にとって十分な情報を提供してくれない。	1	2	3	4	5	6
１８．	監査報告書や財務諸表の脚注は，財務諸表そのものより便利である。	1	2	3	4	5	6
１９．	親子会社連結に関する，現在の会計手続きはよく出来ている.	1	2	3	4	5	6
２０．	親子会社連結に関する，現在の状況発表は価値がある。	1	2	3	4	5	6
２１．	中小企業が他社の過半数の株式を保有する場合、連結を要求されるべきではない。	1	2	3	4	5	6
２２．	セグメント情報は小さな親会社にとって連結情報よりも参考になる	1	2	3	4	5	6
２３．	連結は，全ての大親会社に対して必要とされるべきである。	1	2	3	4	5	6
２４．	連結財務諸表についての監査報告書は、投資家や融資家にとってあてに出来ない。	1	2	3	4	5	6
２５．	比較連結損益計算書の重要性は、効果的な投資、融資の決断の参考になることである。	1	2	3	4	5	6
２６．	海外の子会社を含んだ連結財務諸表は、親会社の損益、純財産を曲解する。	1	2	3	4	5	6
２７．	連結財務諸表は、親・子会社にとって各々の財務諸表より価値がない。	1	2	3	4	5	6
２８．	連結会計報告はやめるべきである。	1	2	3	4	5	6

29.	連結なしの原価法は、親会社の運営状況を表す手段である。	1	2	3	4	5	6
30.	連結なしの持分法は、親会社による子会社運営を効果的に表す。	1	2	3	4	5	6
31.	現代の連結会計は、財務情報量の面で欠けている。	1	2	3	4	5	6
32.	連結会計は、改善の余地がある。	1	2	3	4	5	6
33.	比率分析は、連結財務諸表にとって効果的である。	1	2	3	4	5	6
34.	連結財務諸表の簡素化は、非常に役立つ。	1	2	3	4	5	6
35.	私は、連結財務諸表の内容を理解している。	1	2	3	4	5	6
36.	連結会計は、大半の大企業に適している。	1	2	3	4	5	6
37.	一般投資家は連結財務諸表で満足すべきだ。	1	2	3	4	5	6
38.	連結財務諸表上の情報は便利であるが、それ自身だけでは活用できない。	1	2	3	4	5	6
39.	企業の負債支払い能力はセグメントレポートによって，より詳しく説明出来る。	1	2	3	4	5	6
40.	連結情報は、それを構成している情報と同じく価値がある。	1	2	3	4	5	6

Appendix II. Likert Instrument: English Version

I am interested in your opinion about the effectiveness of consolidated financial statements. For each statement below indicate your level of agreement with that statement from strong agreement (1) to strong disagreement (5) by circling one number.

		Strongly Agree				Strongly Disagree
1.	Consolidated statements are excellent in understanding a company's cash flow.	1	2	3	4	5
2.	While combined statements are in general quite useful, I am not sure if the equity method is appropriate.	1	2	3	4	5
3.	Consolidated income statements are usually quite reliable in predicting a firm's earning capabilities.	1	2	3	4	5
4.	Information about segments is much more useful than consolidated information.	1	2	3	4	5
5.	Consolidated balance sheets are less useful than individual company balance sheets.	1	2	3	4	5
6.	Most information contained in consolidated statements could be more effectively placed in parent company notes to financial statements.	1	2	3	4	5

8. Intercompany transactions are *not* well understood when consolidated financial statements are prepared.	1	2	3	4	5
9. Consolidated financial statements along with other information are useful in decisions to make loans to a parent company	1	2	3	4	5
10. Consolidated financial statements along with other information are useful in decisions to buy parent company stock.	1	2	3	4	5
11. Consolidated financial statements are proper for some industries but not all industries.	1	2	3	4	5
12. When I consider investing in a company, I like looking at consolidated statements.	1	2	3	4	5
13. I don't feel comfortable with consolidated earnings per share.	1	2	3	4	5
14. As long as the audit report is unqualified, I am confident in and can use consolidated financial statements.	1	2	3	4	5
15. Consolidated statements just do *not* help in understanding the combined company's cash flow activity.	1	2	3	4	5
16. In general, consolidated financial statements describe quite well the combined company.	1	2	3	4	5
17. While consolidated statements present fairly the company, they still don't provide the investor with adequate information.	1	2	3	4	5
18. The audit report and notes to financial statements are more useful than the financial statements themselves.	1	2	3	4	5
19. Current accounting procedures for combined companies are quite good.	1	2	3	4	5
20. Current disclosure for combined companies is excellent.	1	2	3	4	5
21. Relatively small companies which own the majority of another company's stock should *not* be required to consolidate.	1	2	3	4	5
22. Segment information is more appropriate for small parent companies than consolidated information	1	2	3	4	5
23. Consolidation should be required for all large parent companies.	1	2	3	4	5
24. Audit reports on consolidated companies are *not* reliable for investors and lenders.	1	2	3	4	5
25. Comparative consolidated income statements are of major importance for good investment and lending decisions.	1	2	3	4	5
26. Consolidated statements with foreign subsidiaries distort parent company income and net worth.	1	2	3	4	5

27. Consolidated financial statements are *no* better or *worse* than individual statements for parent and subsidiaries. 1 2 3 4 5
28. We should end consolidation accounting. 1 2 3 4 5
29. The cost method without consolidation is the way to report parent operations. 1 2 3 4 5
30. The equity method without consolidation would be an effective way to present parent company holdings. 1 2 3 4 5
31. Current consolidation accounting lacks in the area of financial disclosure. 1 2 3 4 5
32. There is room for improvement in accounting for acquisitions and mergers. 1 2 3 4 5
33. Ratio analysis is quite effective on combined financial statements. 1 2 3 4 5
34. The simplicity of combined company statements is extremely helpful. 1 2 3 4 5
35. I understand the contents of consolidated financial statements. 1 2 3 4 5
36. Accounting for mergers and acquisitions is appropriate mostly for large firms. 1 2 3 4 5
37. The investing public should be pleased with consolidated financial statements. 1 2 3 4 5
38. The information presented in combined statement is good but *cannot* stand alone. 1 2 3 4 5
39. Information about a firm's debt payment ability is better explained through segment reporting. 1 2 3 4 5
40. Consolidated information is as good as its component information. 1 2 3 4 5

Appendix II (Continued). Likert Instrument: Japanese Version

連結財務諸表の影響力、信頼度、確信度についてあなたの御意見をお聞かせ下さい。以下の各文に対し同意の度合いを、1～5（1；強く同意する、5；強く反対する）の選択範囲から選びその数字を丸で囲み示してください。

1. 連結財務諸表は親子会社全体の運転資本を理解するのには最高の手段である。 1 2 3 4 5
2. 連結財務諸表は一般的に便利とされているが．持分法が適応しているか定かではない。 1 2 3 4 5
3. 連結損益計算書は、普通、企業の将来収益力の予測にあたって信頼できる。 1 2 3 4 5

4.	セグメントに関する情報は、連結情報より便利である。	1	2	3	4	5
5.	連結貸借対照表は各企業の貸借対照表に比べて使いにくい。	1	2	3	4	5
6.	連結財務諸表に含まれるほとんどの情報は、親会社の財務諸表脚注に有効的に表示されている。	1	2	3	4	5
7.	連結財務諸表は、過半数の株式を保有する会社が作成すべきである。	1	2	3	4	5
8.	連結会社間の取引は、連結財務諸表が作成された場合，理解されにくい。	1	2	3	4	5
9.	連結財務諸表に伴う他の情報は、親会社に対して貸し付けをするか否かの判断をする際、大変便利である。	1	2	3	4	5
10.	連結財務諸表に伴う他の情報は、親会社株式の売買を行うか否かの決定する際に大変便利である。	1	2	3	4	5
11.	連結財務諸表はある種の業種には適しているが、全ての業種に適しているとは限らない。	1	2	3	4	5
12.	私が投資をする際には、連結財務諸表を調べることにしている。	1	2	3	4	5
13.	連結財務諸表の一株当り利益には不安を感じる。	1	2	3	4	5
14.	会計監査報告書が適性意見である限り、私は確信を持って結財務諸表を使用する。	1	2	3	4	5
15.	連結財務諸表は合被連結社の運転資本活動を理解するのには役立たない。	1	2	3	4	5
16.	一般的に連結財務諸表により、被連結会社をよく知る事ができる。	1	2	3	4	5
17.	連結財務諸表は公正に会社の状態を示す一方、それらは投資家にとって十分な情報を提供してくれない。	1	2	3	4	5
18.	監査報告書や財務諸表の脚注は，財務諸表そのものより便利である。	1	2	3	4	5
19.	親子会社連結に関する，現在の会計手続きはよく出来ている．	1	2	3	4	5
20.	親子会社連結に関する，現在の状況発表は価値がある。	1	2	3	4	5
21.	中小企業が他社の過半数の株式を保有する場合、連結を要求されるべきではない。	1	2	3	4	5

２２．	セグメント情報は小さな親会社にとって連結情報よりも参考になる。	1	2	3	4	5
２３．	連結は，全ての大親会社に対して必要とされるべきである。	1	2	3	4	5
２４．	連結財務諸表についての監査報告書は、投資家や融資家にとってあてに出来ない。	1	2	3	4	5
２５．	比較連結損益計算書の重要性は、効果的な投資、融資の決断の参考になることである。	1	2	3	4	5
２６．	海外の子会社を含んだ連結財務諸表は、親会社の損益、純財産を曲解する。	1	2	3	4	5
２７．	連結財務諸表は、親・子会社にとって各々の財務諸表より価値がない。	1	2	3	4	5
２８．	連結会計報告はやめるべきである。	1	2	3	4	5
２９．	連結なしの原価法は、親会社の運営状況を表す手段である。	1	2	3	4	5
３０．	連結なしの持分法は、親会社による子会社運営を効果的に表す。	1	2	3	4	5
３１．	現代の連結会計は、財務情報量の面で欠けている。	1	2	3	4	5
３２．	連結会計は、改善の余地がある。	1	2	3	4	5
３３．	比率分析は、連結財務諸表にとって効果的である。	1	2	3	4	5
３４．	連結財務諸表の簡素化は、非常に役立つ。	1	2	3	4	5
３５．	私は、連結財務諸表の内容を理解している。	1	2	3	4	5
３６．	連結会計は、大半の大企業に適している。	1	2	3	4	5
３７．	一般投資家は連結財務諸表で満足すべきだ。	1	2	3	4	5
３８．	連結財務諸表上の情報は便利であるが、それ自身だけでは活用できない。	1	2	3	4	5
３９．	企業の負債支払い能力はセグメントレポートによって，より詳しく説明出来る。	1	2	3	4	5
４０．	連結情報は、それを構成している情報と同じく価値がある。	1	2	3	4	5

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Accounting Non-Response to the International Debt Crisis: A Positive Theory Perspective

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Key words: Accounting; International debt; LDC debt; Bank audit; Auditing standards

Abstract: This paper attempts to explain why signals from accounting and financial markets for LDC debts differed during a period of deepening international debt crisis in the early 1980s. While price and risk premium changes all signalled a rise in the probability of default on LDC loans, the accounting response was essentially one of little change in the underlying book values of bank loans. The difference seems to emanate from differences in risks between bank and non-bank LDC loans. A careful examination of risks associated with LDC loans suggests a substantial risk differential between loans issued by international banks and those raised directly through issuing securities in the financial markets. This differential seems to be the result of recent financial and legal innovations to transfer a significant portion of bank loan risks to monetary authorities. The information content of market signals and of accounting data seems to reflect two different levels of risks: higher risks for debt instruments issued in the financial markets and lower risks for bank loans, respectively.

In the summer of 1982, the Government of Mexico announced that it was suspending interest payments on its external debts. Mexico's creditors were able to mobilize financial support to alleviate its debt servicing problems, but by then a number of other less-developed countries (LDCs) were experiencing similar problems. An international debt crisis of unprecedented proportions was unfolding. Default on LDC loans and the potential for collapse of the international payments systems became a real concern.

The financial markets reacted promptly. All risk premiums for LDC debts rose, suggesting a reassessment of default probabilities. The response of accountants was essentially a non-response. Beyond mandated disclosures for international

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bank lenders, most intermediated LDC loans were kept on the books at their original amounts and no capital losses were recorded. This position has remained essentially unchanged despite a continuing and, at times, deepening world debt crisis.

Is the accounting response (or non-response) out of step with reality? This paper finds the answer to be negative. This paper draws on the positive theory of accounting to argue that the accounting approach to LDC loans seems to reflect a comprehensive set of considerations not directly relevant to the market for unintermediated loans. The positive theory is rooted in several assumptions including the assumption that only efficient accounting methods tend to survive because of their information content or other similar attributes. The main argument of the paper is to delineate the information content of bank accounting data to help explain why the accounting approach to LDC debt may be realistic and representationally correct.

Section I sketches the general dimensions of the debt crisis. Section II reviews the existing accounting and auditing standards and procedures governing international bank loans. Section III examines the market response to the debt crisis and the accounting treatment of LDC debts. Section IV draws on the positive theory of accounting to specify the information content of accounting data on troubled bank loans and to suggest why the accounting treatment may be defensible. Section V summarizes the main points of the paper.

I. The Debt Crisis in Historical Perspective

Two important shifts in international capital flows occurred during the past decade: from equity to debt and from official to private finance (World Bank, 1985). Official supplies of foreign capital, concessional and nonconcessional, provided half of all the developing countries' inflows in 1970; for the low-income countries, their share was 78 percent. By 1983 these figures had fallen to 46 percent and 45 percent, respectively. Bilateral official development assistance declined in the 1970s as a proportion of total inflows for every group of developing countries – and most sharply for the low-income countries. The falling share of bilateral aid was partly offset by more multilateral flows, particularly for low-income countries. However, in the 1980s the retrenchment of expenditure programs in developed countries resulted in a decline in multilateral aid disbursements.

Debt financing gained particular prominence during the 1970s. For all developing countries, receipts of medium- and long-term loans averaged 4.4 percent of GNP over the decade, rising steadily from 3.1 percent in 1970 to 5.7 percent in 1979. These funds financed between 10 and 21 percent of gross domestic investment in that period. There were, of course, variations among country groups. Debt financing ranged from an average of 4 percent of gross domestic investment for low-income Asian countries to an average of 25 percent for middle-income countries, rising to 35 percent in the early 1980s.

The increased lending by commercial banks, and especially by U.S. banks, was the main reason for the dramatic increase in external financing. By 1985, the outstanding debt of developing countries, including short-term debt and borrowings from the International Monetary Fund (IMF), approached the $1 trillion, almost one-fifth of which was owed to U.S. banks.

Of critical importance was the decline in net transfers consisting of the difference between disbursements to the developing countries and debt service payments by the developing countries. Net transfers to the developing countries increased during the 1970s and reached a peak of $19.2 billion in 1979. Beginning with 1980, net transfers fell sharply and amounted to only $1.7 billion in 1982. For the Latin American countries as a group, net transfers turned into a negative sum of $2.3 billion. A number of factors combined to bring about this situation. First, real interest rates rose sharply as central banks moved to control inflation by tightening credit. The rise in interest rates was translated immediately to higher borrowing costs for the debtor countries as most of the developing country debts were tied to a market rate, such as LIBOR (London Interbank Offer Rate). Second, in 1982, global inflation unexpectedly abated. Long-term obligations that were contracted on the assumption of rising export prices became more costly in real terms, and, ever worse, the decline in inflation was not accompanied by lower nominal interest rates. Third, the value of the dollar, in which most of the developing country debts were denominated, rose relative to other currencies, making it more expensive for developing countries to earn dollars to service their debts. This was compounded by a decline in global demand for oil and other raw materials, which made it extremely difficult for the developing countries to earn foreign exchange to service their debt obligations.

According to one hypothesis,[1] the prospect of negative net transfers sharply increased the perceived probability of default and triggered a payments crisis. Proof came in 1982 when Mexico announced that it was imposing a moratorium on the payment of interest on its debt obligations. Other countries were also on the verge of following Mexico's example. Policy-makers and private lenders adopted a basic pattern to manage the crisis. First, to obtain short-term financing from the IMF, the debtor country had to reach an agreement with the IMF on economic reforms designed to improve the long-term debt service capacity of the country. Second, once an IMF agreement was concluded, debtors had to reach an agreement with banks to reschedule their loans. These terms were augmented in 1985 when U.S. Treasury Secretary Baker announced the so-called Baker Plan. This established modest goals for concerted net new lending by commercial banks in conjunction with increased official lending to a group of 15 heavily indebted countries. None the less, net new lending to these countries was somewhat meager and debt rescheduling continued. In 1986, the amount of loans outstanding actually declined by $3 billion, while some $135 billion of bank debt was rescheduled for the 15 countries. Terms and conditions were generally easier than those negotiated in the earlier rounds. Maturities were extended to 20 years for some countries.

The Baker Plan was later modified by the addition of a menu of options that encouraged debt/equity exchanges and other arrangements to reduce the total amount of outstanding debt.[2] Despite these and other efforts, the overall debt crisis has not been resolved. The Baker Plan countries have more debt now than they did before 1985 and more reschedulings are expected. Serious discussion is also under way to write-off some loans to world's poorest countries, mainly in sub-Saharan Africa. France and West Germany have already taken steps in this direction and it is expected that other industrialized countries will follow suit.

II. Accounting and Auditing Standards

The accounting standards governing international bank loans are substantially the same as those related to loans in general. For the lending bank, the gross amounts of the loans are shown as assets on the balance sheet. A contra account is established, based on an analysis of the gross loan amount, and the portion of the loans that is likely to prove uncollectable is estimated. The net asset amount is determined by deducting from the gross asset amount the estimated uncollectable loan. Actual uncollectable loans identified during any given period are written off against the estimated uncollectable account, and periodic uncollectable loans expense is estimated and charged against revenue and credited to the contra account. In addition, under the International Lending Supervision Act of 1983, banking institutions must establish special reserves (allocated transfer risk reserve, "ATRR") against transfer risks on international assets when debt service has not occurred over an extended period of time. The factors which are considered in determining whether such a reserve is necessary include the extent to which the quality of assets might have been impaired by a protracted inability of the debtor to service the loan and the prospects for the orderly restoration of payments. This reserve is accounted for separately from the contra account for probable uncollectable loans, and cannot be included in the banking institution's equity. However, the reserve would not be required if the bank actually writes down the assets in the requisite amount.

The accounting for "troubled debt" is governed by FASB Statement No. 15, "Accounting for Debtors and Creditors for Troubled Debt Restructurings". According to Statement 15, troubled debt restructuring occurs when the creditor for economic or legal reasons related to the debtor's financial difficulties grants a concession to the debtor that it would not otherwise consider. The objective is to make the best of a difficult situation, and the restructuring could include modification of terms of debt such as reduction of the stated rate of interest for the remaining original life of the debt, extension of the maturity date, reduction of the face amount or maturity amount of the debt, reduction of accrued interest, or a combination of these and other concessions. The Statement recommends (paragraph 30) that

"a creditor in a troubled debt restructuring involving only modification of terms of a receivable shall account for the effects of the restructuring prospectively and shall not change the recorded investment in the receivable at the time of the restructuring unless that amount exceeds the total future cash receipts specified by the new terms".

Only if the total future cash receipts specified by the new terms are less than the recorded investment in the receivable before restructuring will the creditor reduce the recorded investment in the receivable to an amount equal to the future cash receipts specified by the new terms. The amount of the reduction is a loss that should be recognized by reducing the contra valuation account, and the excess, if any, included in measuring net income for the period of restructuring.

The accounting treatment of international bank loans also seems to be driven at least in part by regulatory bodies. Under the so-called regulatory accounting, banks are allowed to record most of their loans to developing countries at book value as long as there is some "reasonable" prospect that the bank will be repaid at least its principal investment.

The disclosure requirements are specified by the bank regulatory authorities. For major U.S. banks, the disclosure requirements are authorized by the Securities and Exchange Commission (SEC). These are primarily bank holding companies that are subject to the Bank Holding Company Act of 1956. Although the Act is administered by the Board of Governors of the Federal Reserve System, the bank holding companies are subject to regulation by the SEC because of their widespread stock ownership. According to the SEC requirements, bank holding companies engaged in international lending must make the following minimum disclosures:

(1) Where conditions in a country give rise to problems which may have a material impact on the timely payment of interest or principal of that country's private or public debt, and where the aggregate outstandings related to such country which are payable to the registrant in U.S. dollars or other foreign currencies exceed 1 percent of the registrant's total assets, the country should be identified.

(2) The amount of such outstandings to all identified countries should be stated in absolute dollars, as a percentage of total amounts, or in a similar manner which will indicate the magnitude of the outstandings related to the identified countries. Although the amount of the outstandings may be aggregated, if the aggregate amount so disclosed comprises heavy concentrations in any country, the amount related to that country should be separately disclosed.

(3) An indication of the effect that these conditions have had or are expected to have on the financial condition or results of operations of the registrant should be provided.

The auditing standards and procedures for banks are given in detail in AICPA's *Audit Guide for Banks*.[3] On auditing bank loans, the audit guide (pp. 50–65)requires the auditor to select

"a sample group of loans from all significant loan categories and [perform] detailed tests on it . . . The tests should include inspection of the executed notes, loan applications, and other credit information and supporting documentation appropriate to the types of loans being examined . . . the auditor should request confirmation of a representative sample of loan balances directly with the bank's customers . . . The audit should include procedures to test compliance with bank policies related to loan charge-offs . . . [The auditor is also responsible] for obtaining reasonable assurance that management has recorded a reasonable allowance, based on available information and all relevant factors bearing on loan collectability . . . the audit procedures should be designed to determine the overall collectability of the entire portfolio and should be performed primarily on a test basis. In establishing the scope of the work, the [auditor] should consider the composition of the loan portfolio, growth trends being experienced in specific loan classifications, previous loss and recovery experience, including timeliness of charge-offs, the existence of sound lending policies and procedures, management's procedures for loan review and classification, and subjective factors, such as economic and environmental conditions."

There are no specific procedures or standards tailored to an audit evaluation of international loans, although public accountants have access to independent country risk analyses. The minimum requirements are to ensure that the general bank audit standards and procedures are applied to provide material disclosures and to assemble sufficient evidence to permit an informed judgment on the collectability of the loan.

III. Market Response and Accounting for LDC Loans

The accounting for LDC loans seems to be at variance with the changing risk perceptions in the market. Although market responses in the aftermath of the debt crisis indicated higher costs and greater risks, accounting appeared to be content with a non-response to market signals.

Market responses to the unfolding debt crisis have been examined by other researchers,[4–8] who have compared yields on international and foreign bonds issued by individual developing countries with those issued by industrial countries. Their findings indicated that the yield spread rose dramatically in the third quarter of 1982 in the wake of Mexico's announcement, suggesting that the market required substantially higher risk premiums for developing country loans than before. They also found that risk premiums on bank loans to the developing countries began rising even earlier. The spreads over LIBOR for some major developing countries increased from an average of 125 basis points in early 1982 to 217 basis points in 1983.

Other studies on secondary markets for developing country loans and stock market reaction to the debt crisis reinforced the foregoing results. The secondary market for LDC bank loans, albeit thin, registered discounts of 10-25 percent from face value in 1983.[9] Investors in the stock market tended to discount the share prices of banks with large exposures to developing country debts. For example, the sharp fall in the equities of the largest bank holding companies over the 1982–1984 period can be explained in part by their exposure to Latin American debtors.[9,10] Subsequently, bank stock prices rose when banks appropriated billions of dollars as loan-loss reserves despite its direct negative impact on reported profits.

Despite the foregoing evidence, accountants continued to endorse the much less conservative financial statements of international bank lenders. As the market value of bank net assets and LDC loans plunged, U.S. banks generally continued to book the LDC loans at their original value with the explicit endorsement of their external auditors. They also continued until 1987 to book their loan loss reserves at practically the same rate as before. Based on available data, U.S. banks wrote down $2.2 billion or about 1.7 percent of their loans to non-OPEC developing countries between 1982 and 1985.[11] During the same period, they increased their loan loss reserves at an average rate of only 0.51 percent of assets per year. Only in 1987 did banks take action to increase significantly their loan reserves. Meanwhile, independent public accountants apparently gave their unqualified blessings to the financial statements year after year.

IV. A Positive Theory Perspective

Accounting is rooted in prudence and conservatism. Generally, if there is reasonable evidence that an asset has been impaired or a liability has been incurred, a loss is immediately recognized. In accounting for LDC bank loans, the evidence suggests that although market responses indicated substantial asset impairment, bank financial statements largely tended to ignore them. Current accounting and auditing standards as well as the actual reporting of LDC debts in the financial statements of major banks do not seem to have been responsive to the debt crisis.

We need to find an explanation. Obviously, accounting iscommitted to prudence, full disclosure and representational faithfulness. This, coupled with the positive-theory assumption that in practice only efficient accounting procedures tend to survive,[1] suggests that the accounting treatment of LDC bank loans should reflect considerations independent of the market signals. The question, therefore, is one of identifying the information content of the accounting data.

To begin, it may be argued that market signals reflect the risks of what may be described as unenforceable claims, whereas accounting data reflect judgments on claims that have become increasingly more enforceable. Enforceability is crucial for our purposes and, therefore, warrants further discussion.

In general, there is a fundamental difference between private domestic loans and international loans. Economic and accounting thinking concerning borrowing and lending is commonly based on the paradigm of debt enforcement through the law. In domestic credit markets, bankruptcy laws protect both the borrower and the lender and allow enforcement through a system of risk-sharing. However, the markets for international loans, both intermediated and unintermediated, have a much less developed institutional and legal structure, and no clear definition of the borrower's liability and lender's rights.[1,13] When the borrower is a sovereign entity, the lender has no recourse to its assets because of the well-known principle of sovereign immunity. Until 1976, when the Foreign Sovereign Immunities Act became law in the United States, the overriding principle was the all-encompassing sovereign immunity covering all activities of foreign entities, including those of state enterprises. The absence of a clear legal framework to allow enforcement of loan contracts is a crucial difference between domestic and international loans.

These infrastructural shortcomings governing international loans have been mostly eliminated for banks by recent developments and financial innovations designed to raise the cost of default by LDC borrowers. In the process, the international bank lenders have gained comprehensive advantages over the more traditional, unintermediated lenders. The result has been to differentiate between bank loans to LDC borrowers and direct LDC borrowings in the bond market.

Three developments may be identified:

(1) the gradual assumption by central banks and deposit insurance agencies of a larger portion of the default risk of bank deposit liabilities,

(2) the introduction of cross-default clauses covering publicly guaranteed debt, and

(3) the widespread use of syndication.

These changes, reinforced by legal developments to exclude from sovereign immunity all commercial enterprises irrespective of ownership (Foreign Sovereign Immunities Act 1976), have resulted in a significant reduction in risks to banks.

The evolution toward a financial system in which the monetary authorities assume a large portion of the risk of default of bank deposit liabilities has been worldwide. In the United States, the Federal Deposit Insurance Corporation (FDIC) has been transformed from an insurance agency empowered to merge failing banks into a financial stabilization organization guaranteeing the total liabilities of major banks. Notable examples of this are the rescue of the First Pennsylvania Bank, the twenty-first largest U.S. bank, in 1980, and of the Continental Illinois National Bank and Trust Company, the eighth largest U.S. bank, in 1984. In these and other cases, the full nominal value of all deposits was maintained, regardless of the causes of financial difficulties.[7] In other major industrial countries, the protection has been either through direct ownership as in Italy, or via automatic discounting as in France, West Germany and the United Kingdom. At the international level, these protection measures are considerably enhanced by co-operative arrangements through the Bank of International Settlements (BIS) or the Exchange Stabilization Fund of the U.S. Treasury, and the direct role of the IMF.

An important innovation designed to raise the cost of default by borrowers in developing countries has been the cross-default clause covering publicly guaranteed debt. This clause in effect blurs the differences in risk among individual borrowers in a country by tying all the public and publicly guaranteed loans together. A loan encumbered by a cross-default clause is due immediately when the clause is triggered by the default of an associated loan. This innovation is all the more important because the increase in LDC bank lending during the past decade has consisted mostly of loans to governments, their agencies, or borrowers with government guarantees. The result of this aggregation of country debts means that bank lenders do not need to be concerned as much with the ability of individual borrowers to pay their debts as with the ability of the country itself to service its external debt.

A similar aggregation has been achieved among lenders through syndication. Thus, if a borrower in a developing country becomes delinquent, cross-default clauses would trigger default on all its outstanding loans from all major bank lenders. Syndication prevents a borrower from selectively defaulting on loans from one or more lenders, and cross-default clauses prevent individual borrowers within a country from defaulting without engulfing the whole country.

In addition, there have been numerous market innovations involving loan exchanging and loan-equity exchanges. One interesting loan exchange arrangement has come to be known as synthetic debt and is described in the Appendix.

The net effects of these developments have been to shift a significant portion of the costs of international lending away from banks to other entities – primarily to the developing countries and to the national and international monetary authorities. The only significant costs left for the international lending banks are essentially those entailed in rescheduling. The result, of course, is that bank financial statements reflect these lower risks instead of the much higher risks associated with LDC debts.

In the foregoing context, to account for bank loans under the accrual rather than the cash concept, seems reasonable as accrual accounting adjusts the data to reflect the expected cash flows and is based on an information system more comprehensive than past and current cash flows. Thus, accountants seem to have endorsed bank management practices of booking interest income on LDC loans while simultaneously lending money to keep the borrowing countries financially afloat. This practice is consistent with the reduced risk environment within which banks have been operating.

Despite this, there is still the distinct possibility of forfeitures or sovereign nation bankruptcy and the higher costs associated with rectifying the ensuing problems. Although depositors enjoy limited protection, bank stockholders stand to lose to the extent that uninsured deposits must be covered by equity capital including retained earnings. As indicated earlier, bank stock prices at times have given mixed signals, but accounting loan-loss provisions have been changed slowly to accommodate higher loss probabilities. Although it is difficult to evaluate the exact relationship of accounting data to the behaviour of bank stock prices, it may be fair to say that there is a general pattern of consistency between them. If a forfeiture or sovereign nation bankruptcy actually occurs, accounting data would, of course, disclose the resulting loss and stock prices would also respond accordingly.

V. Conclusions

After the onset of the international debt crisis in the summer of 1982, price and risk premium changes all signalled a rise in the probability of default on LDC debt obligations. The behavior of prices in the bond market, secondary market for bank loans, and the bank equities market indicated a sharp decrease in the value of outstanding claims on LDCs. Yet an examination of the audited financial statements of major U.S. banks and data collected by other researchers indicate that accountants did not write down the value of LDC loans either directly or through larger allowances for bad debts.

The accounting response to the debt crisis seems to be correct. Through a series of financial and legal innovations, a significant portion of the risks of intermediated

LDC loans has been shifted away from banks and toward the national and international monetary authorities and, of course, the borrowing countries themselves. The principal risk borne by international bank lenders is not so much that of default by LDCs, but the cost of rescheduling existing loans. For that cost, the accounting treatment of LDC loans by carrying them at their original book value, with normal bad debt provisions, seems to be an appropriate response.

Appendix. The Case of Synthetic Debt

In 1987, Mexico announced that it would offer creditor banks the chance to tender existing debt, at a discount from face value, against a new security carrying a higher yield and collateralized on its principal by U.S. Government securities. Since then nearly $4 billion of bank debt has been tendered for redemption.

A variant of this plan, known as synthetic debt, has since come into use by financial institutions. The magnitude of the debt converted into synthetic debt is not known. A description of how it works in practice (based on an actual case, with the names and amount changed to keep anonymity) is given below.

Step 1: Brokerage firm A buys from XYZ bank a given developing country loan portfolio for 100 percent of face value.

Step 2: Simultaneously, XYZ bank buys the non-marketable synthetic debt instrument from brokerage firm A at 100 percent of face value. This exchange requires the bank to pay "boot". The synthetic debt, which matures in twenty years, is secured by U.S. Treasury zero-coupon obligations. Brokerage firm A guarantees a minimum interest payment and additional interest payment will be conditional upon the receipt of interest on the underlying trust portfolio as described in Step 3.

Step 3: Upon purchasing the portfolio from bank XYZ, brokerage firm A will place an equivalent portfolio with the same face value in trust for the bank.

Step 4: If any of the loans in trust are repaid, the amounts will be passed on to bank XYZ and the redemption value of the debt instrument reduced by the same amount. The U.S. Treasury zero-coupon obligations securing that portion of the debt instrument would be resold and the proceeds passed on to the bank as a windfall gain.

Step 5: As the bank has sold its portfolio at full face value, existing loan loss allowances are reversed. In the same vein, as the synthetic debt is fully secured as to principal at maturity, no new loss allowances are required.

In this case, the bank pays an explicit price upfront and an implicit price in terms of a longer repayment schedule to shift away the risks of default and delayed interest payments. In return, it receives guaranteed minimum interest payments and a secure principal, plus potential gains as described in Step 4.

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The Internationalization of Equity Markets: Motivations for Foreign Corporate Listing and Filing and Listing Requirements of Five Major Stock Exchanges

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Abstract: The internationalization of national equity markets has significant implications for international accounting. The dynamic nature of the equity markets poses a special challenge for accountants as they attempt to understand the major changes in regulations controlling international financial markets, particularly those which relate to accounting disclosure requirements. The authors discuss listing requirements for some of the major international financial markets: New York, Tokyo, London, Frankfurt, and Paris. Financial considerations for attempting the somewhat complicated task of listing, such as filing and listing requirements, are discussed.

The simplification and harmonization of the securities regulation of major stock exchanges and an apparent tendency to be more standardized and lenient in the initial and continuing listing years have facilitated the growth of the major international capital markets. The listing and filing requirements have a strong influence on a company's decision on whether to list on a particular foreign stock exchange. The various stock exchanges are currently reviewing these listing requirements and seem to be interested in attracting new foreign listings. Significant differences in listing and filing requirements still remain. The differences have some major accounting implications and underscore the importance of accounting disclosure in terms of the listing and filing requirements on international stock exchanges. The recent shockwaves from the New York Stock Exchange crash on Black Monday (October 19, 1987), felt throughout the financial world, illustrated with poignant clarity that the various national capital

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markets are all part of a united global financial village. This trend towards internationalization has been most prominent in the debt market, where the significant financial flows of the Euro-bond market testify to the maturity of that market.

In the last few years, we have also witnessed a concomitant growth in the international equity market as governments and regulatory bodies have adopted policies to facilitate cross-border equity financing. The Euromoney Corporate list, which includes companies whose share are traded in at least one foreign market, doubled to 472 companies in 1986 from 236 companies in 1984 (the year the list was first introduced).[1] By early October 1986, $7.9 billion of Euro-equity issues (shares placed outside a company's home market) had been issued that year, compared with $3.5billion in 1985 and $200 million in 1983.[2] This phenomenal growth signals a new era in international financing.

The internationalization of national equity markets has significant implications for international accounting. The dynamic nature of the equity markets poses a special challenge for accountants as they strive to understand the latest changes in the international equity markets, particularly in relation to the changing accounting disclosure requirements of various stock exchanges and their effect on potential foreign listings. For standard setters and regulators, the challenge is to remove barriers that restrict cross-border equity financing and to harmonize accounting disclosure and listing requirements for foreign companies on various international stock exchanges to create a more level playing field.

This paper discusses the advantages and disadvantages to companies that list their equity securities on a foreign stock exchange. Available evidence suggests that a company's choice of the foreign exchange on which to list is not random but is greatly influenced by the listing and filing requirements of the various exchanges. This paper also analyzes the most salient aspects of the accounting listing and filing requirements of the New York, Tokyo, London, Frankfurt, and Paris stock exchanges and the degree of success they have achieved in attracting foreign companies. The New York Stock Exchange is an example of a self-regulated market supervised by an oversight body, the Securities and Exchange Commission (SEC). The London Stock Exchange approximates a self-regulated market; however, Britain's new regulatory system which empowers the Securities and Investment Board (SIB) to perform an oversight role may soon change that. The Frankfurt Stock Exchange is an example of a banking-controlled system. The Tokyo and Paris stock exchanges are examples of state-controlled markets. London, Frankfurt, and Paris are situated in member countries of the European Economic Community (EEC). The effect of the EEC initiative on harmonization of capital market legislation on these individual stock exchanges is also examined. This information should be useful to individuals interested in international accounting and to companies considering listing their securities on a foreign stock exchange.

Motivations and Advantages of Foreign Listings

Despite onerous listing requirements and high costs, many companies seek foreign listing of their stock, which signifies their belief that the benefits accruing from being listed outweigh the inconveniences and costs. Companies, however, may desire a foreign listing for vastly different reasons (financial, strategic, and commercial), as discussed below.

Financial Considerations

One financial motivation for firms to seek a foreign listing is to minimize their cost of capital. Financial theory suggests that a firm should strive to achieve and maintain its optimal financing mix (proportions of debt and equity) that will minimize its cost of capital. This implies that any expansion in the overall capital budget of a firm should be financed both by debt and equity in the proportion of its optimal financing mix. However, expanding firms may be confronted with a rising cost of capital even when maintaining their optimal financing mix, if the desired capital is to be raised domestically. A firm may only be able to tap the domestic capital markets for some limited amount in the short run, even if the same optimal financial structure is preserved.[3] This is especially relevant for firms operating in illiquid capital markets. This constraint can be circumvented by tapping additional capital sources outside the domestic capital market. A foreign listing can enable a company to raise equity capital outside its domestic market quickly and efficiently.

A second financial motivation for firms to seek a foreign listing is capital market segmentation. A national capital market is segmented if the desired rate of return on securities in that market differs from the desired rate of return on comparable securities that are traded in other national markets.[4] Such a situation usually arises when barriers to international information and capital flows exist in a domestic market, because of government-imposed constraints (e.g., foreign exchange restrictions). The absence of foreign participation in the domestic market leads to securities listed on it to be priced according to domestic rather than international information and market forces.

A company operating in a segmented domestic capital market, therefore, could have a higher cost of capital than its foreign competitors. One option for such a company is to list on foreign stock exchanges and raise equity capital globally. This could increase international awareness of the company and help to price the company's securities correctly *vis-a-vis* the international information base. A well-documented example is Novo Industri A/S, a Danish multinational firm. Originally listed only in the Danish capital market, a market that was both illiquid and segmented, the company successfully raised equity capital and lowered its cost of capital after its listing on the New York Stock Exchange in 1981.[5]

A third financial motivation for companies to seek a foreign listing is related to size. Companies such as IBM, Exxon, and General Motors are so large that their financing needs cannot be met by a single market and they are virtually forced to issue their securities internationally. Additionally, an international equity issue is generally less expensive than a domestic equity issue, as a Euromoney poll of companies which had a daily market of their shares on at least one foreign market revealed. Two-thirds of those polled concurred that an international equity issue was less expensive than a domestic issue.[6]

A fourth financial motivation for foreign listing is that it provides Chief Financial Officers (CFOs) considerable flexibility in raising capital. Foreign listings provide companies with financial credibility and thus greater ease in raising capital in the international debt and equity markets. It also allows CFOs the opportunity to engage in creative financing, by issuing hybrid equity instruments (e.g., convertible bonds, bonds with equity warrants and equity notes) which often have an advantage over straight stock offerings both in terms of cost and their impact on the firm's balance sheet. For multinational firms, foreign listings have the added attraction of enabling firms to raise capital in foreign markets to finance foreign operations, and thus help avoid the risk of foreign currency exchange exposure.

A fifth financial motivation for foreign listing arises from the desire to create a continuous (24-hr) market for a firm's shares and to bolster its stock price. The possibility of global, 24-hr trading with the interlinking of major international stock exchanges holds special attraction for major companies to have foreign listings as a means to create a continuous market for their shares. There is significant interest in global 24-hr trading, particularly among the leading financial institutions. In a Coopers & Lybrand survey of senior executives of 45 leading financial services institutions, conducted before and after the market crisis of October 19, most respondents concurred that 24-hr trading was inevitable and would emerge within the next 2 years.[7]

Strategic and Commercial Factors

Strategic and commercial factors are other important reasons why companies desire foreign listing. The ability of a company to issue equity that can be traded on overseas markets is of great importance for corporate strategy.[8] Foreign listing is used as both an offensive and a defensive mechanism in mergers and acquisitions. Foreign listing produces a diversified shareholder base that serves as a protection against hostile takeover attempts by increasing the difficulty for the predator to accumulate stocks of the target company, when large blocks are scattered around the world. On the other hand, by listing its shares globally, a company may position itself favorably for foreign acquisitions through stock swaps.

A foreign listing may also be sought to fulfill a company's commercial objectives. A foreign listing may help build the corporate image, as it will advertise trademarks and products and thus lead to an increased international awareness of the company. A foreign listing can generate employee and customer loyalty on a world-wide basis. Additionally, a desire to avoid nationalistic reactions to wholly owned foreign subsidiaries has led companies such as General Motors, Ford, and IBM to sell the parent company's shares worldwide.[9]

A number of factors may motivate a company to list its shares on a foreign stock exchange. The decision to seek foreign listing is firm specific, and is influenced by the firm's financing and investment goals, marketing and competitive pressures, and other strategic considerations.

Difficulties and Disadvantages of Foreign Listings

Fulfilling the requirements for listing on various stock exchanges can be a very intricate and time-consuming process, especially for foreign registrants. Of the numerous difficulties encountered, respondents to a Euromoney poll cited legal problems/disclosure requirements, investor relations, and flowbacks as the three main problems in making an international equity offering.[10]

One of the major problems faced by companies seeking foreign listing is the difference in regulations and listing requirements of various stock exchanges around the world. Compliance with the regulations prescribed by the various stock exchanges or the Companies Act in the U.K. and the Securities and Exchange Commission (SEC) in the U.S.A. may require major modifications or even restatement of financial statements, as well as raise important questions of liability for foreign companies. A more detailed discussion of listing requirements of selected stock exchanges is provided in the next section of this paper.

A more widely dispersed equity base requires firms to have a very strong investor relations program. To maintain shareholder loyalty, the different time and risk preferences of shareholders in various countries must be considered before any action which affects shareholders' interest. This decision sometimes involves a careful balancing of all factors, as illustrated by the Bowater Industries case, in which the company demerged its North American subsidiary in 1984 and subsequently distributed shares of its North American company to existing shareholders. Under demerger legislation in the U.K. this transaction was deemed tax-free for the shareholders; however, the Swiss and U.S. shareholders were upset as the distribution was classified as income by their respective national tax units.[11] To support a world-wide shareholder base, not only must the company publish and distribute annual reports and other statements in the local languages as required by law; it must also educate existing and potential shareholders of the company's plans and products through regular communiqués.

"Flowback" problems sometimes mitigate the advantages of raising equity capital abroad. Flowback is the rapid return to the home country of company stock that was sold in a foreign market. This usually results in depressing the domestic price of the stock. Such was the case when British Telecom shares were sold in the U.S.A. in 1984–1985. Subsequently, large blocks of the British Telecom shares issued in the U.S.A. found their way into the U.K. equity market and thus depressed the price of British Telecom shares in the U.K.[12] The importance of organizing and maintaining a good research and marketing capability to ensure that flowback does not occur is clear.

Significant cost and time are involved in both listing and supporting a foreign listing. Besides listing, research, marketing and legal costs, the cost of maintaining an integrated computerized distribution network must also be considered.

Artificial barriers, such as foreign exchange controls, serve as strong deterrents to a foreign listing. Ceilings on non-residents' purchases of domestic securities, ceilings on residents' purchases of foreign securities, deposit requirements, government controls on new issues, and interest equalization taxes have restricted cross-border equity financing. Although, in recent years, many such controls by governments of developed nations have been relaxed, it is very doubtful that they would be willing to yield all control of such important macroeconomic tools.

The difficulties which confront companies seeking foreign listing, and response to increased competitive pressure from other stock exchanges, both domestic and foreign, have caused the major stock exchanges to initiate significant marketing campaigns to attract potential registrants. Steps taken by the major stock exchanges include liberalizing or waiving some of the stringent listing requirements for foreign companies, purchasing and implementing state-of-the-art technology to facilitate quick and efficient trading, and providing other financial services, such as options and futures trading. The listing and filing requirements of five major stock exchanges (New York, Tokyo, London, Frankfurt, and Paris) are now reviewed with special reference to the selective accounting disclosure requirements of each exchange.

The New York Stock Exchange

The New York Stock Exchange (NYSE) is undoubtedly one of the premier stock exchanges in the world both in terms of volume and financial sophistication. The NYSE took a major deregulation initiative in 1975, 11 years before a similar initiative was taken at the London Stock Exchange. As of January 1988, the NYSE listed 1640 companies' stock (common), with approximately 70 billion shares, with a market value in excess of $2.2 trillion.

Even though these figures are impressive, they do not reveal some fundamental underlying concerns. The numbers of listings on the NYSE had been stagnant between 1975 and 1985, when 1557 and 1541 companies, respectively, were listed. One reason for this lack in the growth of listings was the strong growth and maturity of other stock markets in the U.S.A., particularly the National Association of Securities Dealers Automated Quotation System (NASDAQ) market, which increased from 2894 listings in 1980 to 4112 listings in June 1985. In recent years, a strong promotional campaign, a bull market, and a liberalization of certain listing requirements have helped boost NYSE listings to 1640 (January 1988).

Ironically, the high listing requirements of the NYSE, perhaps the highest standards in the world, which to a great extent brought the current prestige associated with a NYSE listing, have also been one of the strongest barriers to listing on the NYSE. Nowhere is this more evident than in the number of foreign listing, which was only 53 for the NYSE compared with 505 for the London Stock Exchange and 225 for the much smaller Frankfurt Stock Exchange, in September 1986.[13]

A foreign company seeking listing on the NYSE must comply not only with the listing requirements of the NYSE but also with the registration requirements of the SEC. As the SEC is empowered through the Securities Act of 1933 and the Securities and Exchange Act of 1934 to control the initial sale and distribution of publicly offered securities and to control the post-distribution trading of securities, foreign companies wishing to trade their shares on any U.S. stock exchange must meet the requirements of the SEC.

The initial step for foreign companies seeking to list their equity securities on the NYSE is the confidential eligibility review. This review takes approximately 2 weeks and provides a company with an official position on its listing status and the conditions it would need to fulfill to qualify for listing. The review is free of cost and does not constitute a commitment by the company to list on the NYSE.

Listing Requirements

The listing requirements of the NYSE are given in detail in its publication, "Company Manual." Although different requirements for domestic and foreign companies are prescribed, a foreign company may elect to qualify under either set of standards.

Foreign companies must meet certain numerical standards, in terms of distribution, depth, and liquidity of their share in world stock markets. Although these numerical standards may not be applied rigidly, the standards for foreign companies are much more stringent than those for domestic companies.

The original listing application requires specified information, including the company's history, business operations, and capital structure. The following financial information must also be submitted:[14]

(1) Selected consolidated financial data (income statement and balance sheet data for the last 5 years, not required to be audited.

(2) Consolidated financial statements of the company for the last 2 years, which should include statements of income and retained earnings, statements of changes in financial position, and balance sheets. Financial statements submitted should be audited by independent accountants.

(3) Any available consolidated financial statement for any regular interim period of the current fiscal year, either certified by the company's principal accounting officer or audited by its independent accountants.

(4) A pro forma consolidated balance sheet is required in cases where the company has or is contemplating any major financing, recapitalization, acquisition or reorganization.

If the financial statements of a foreign company are based on accounting principles other than U.S. generally accepted accounting principles (GAAP) and as a result there are significant differences in the company's financial statements, then the NYSE requires the company to disclose and reconcile these differences to what they would have been had GAAP been applied.

The SEC requirements mandate the filing of a registration statement (Form 20-F), which must include a prospectus containing a background sketch of the company and a report of its line of business, operations, and historical and financial data. Audited financial statements of the company for the last 3 years are required. A company's financial statements may be based on the accounting principles of the domicile country; however, if they constitute a significant departure from GAAP, the SEC requires a reconciliation to U.S. accounting principles (as the NYSE requirement). All such financial statements are required to be audited by independent auditors in harmony with U.S. generally accepted auditing standards. The SEC has also adopted various rules that specify disclosure of certain financial information in addition to that included in the financial statements. For example, certain supplementary financial information, selected financial data, and management's discussion and analysis of the company's financial condition and results of operations are required.[15]

Satisfying the listing and registration requirements of the NYSE and SEC can be a complicated and time-consuming process. An SEC registration review takes approximately 3–6 weeks; however, many more months of planning and negotiating are usually required before a formal registration date can be submitted to the SEC. Officials of foreign companies which seek listing are advised to consult and work closely with the SEC and NYSE staff from the outset of the planning stage.

Filing Requirements

Once a company is listed, it is confronted with continuing reporting requirements of both the NYSE and the SEC to maintain its listing. The NYSE requires each foreign listed company to:[16]

(1) Publish and submit audited consolidated annual financial statements to its shareholders at least 15 days in advance of the annual meeting, but no later than 3 months after the close of the company's fiscal year.

(2) Publish in the financial press, quarterly statements of earnings, on the same basis of consolidation as the company's annual financial statements, within 45 days of the close of the period. These statements are not required to be audited.

(3) Make available to the NYSE and U.S. investors via news release any news announcements or developments of a material nature, at the same time as they are announced in the home country, in consonance with the NYSE's "timely disclosure policy."

Because of complaints received from foreign companies regarding the difficulty of meeting the NYSE's interim financial reporting requirements (item (2) above), the NYSE modified its requirement in this area. Under the new NYSE policy (June 11, 1986), if the Exchange finds that a non-U.S. company's interim earnings reporting are consistent with the law and practices in the country in which it is domiciled, even though less than quarterly, such reporting need not be a barrier to listing or continued listing. In applying the modified standard, however, the NYSE will not accept a home country law or practice which allows or requires reporting of earnings less frequently than semi-annually.[17]

All financial statements and news releases are required to be in English. Upon request, the NYSE may give newly listed foreign companies a grace period to comply with its regulations.

Under the Securities and Exchange Act of 1934, foreign companies listed on any U.S. stock exchange are required to file Form 20-F (discussed earlier) and also interim reports during the year (Form 6-K). Unlike domestic companies, which are required to provide quarterly financial information to shareholders and the SEC, foreign companies must provide in Form 6-K only that information concerning the company that has been made public in its home country. Further, this information has to be filed only with the SEC. No specific deadline is set for this filing, although a prompt filing after public disclosure of the information in the home country is encouraged.

The extensive reporting and disclosure requirements of the NYSE and the SEC may dissuade foreign companies, especially those from countries where such requirements are less extensive, from listing on the NYSE. As a practical matter, the NYSE and the SEC are willing to work with a foreign company for a reasonable period within which the company should comply with their respective requirements. The SEC may occasionally relax a specific rule, when requested by foreign companies, and when a hardship would result from compliance.[18] A listing on the NYSE clearly requires a strong commitment, months of negotiating, legal discussions, and often a major cost to meet the dual requirements of the exchange and the SEC.

The Tokyo Stock Exchange

Forming a crucial link in global 24-hr trading, the Tokyo Stock Exchange (TSE) has emerged as one of the important stock exchanges in the world. With a trading volume of $1.8 trillion during 1987, compared with $1.9 trillion for the NYSE, the TSE ranks second only to the NYSE in terms of trading volume. In terms of total market valuation, the TSE surpassed even the NYSE. At the beginning of 1988, the total market valuation of the TSE was $2.7 trillion, compared with $2.2 trillion for the NYSE.[19]

The increased activity on the TSE is also reflected in its once restrictive foreign section (shares of foreign companies are listed and traded on the foreign section of the TSE). The foreign section of the TSE opened in December 1973 with only six foreign listed companies: the number of foreign listed companies increased to 17 by 1976. However, the stringent listing and filing requirements of the TSE for foreign companies, the bureaucratic difficulties, and the high cost associated with maintaining a listing on the TSE led to a wave of delistings by foreign companies in the late 1970s. These delistings forced the TSE authorities to re-examine the listing and filing requirements for foreign companies and also the commitment to internationalize the TSE. The TSE authorities responded in 1983-1984 by simplifying and reducing the listing and filing requirements for foreign companies which sought to list on the TSE. These liberalization initiatives and the growing importance of Japan as a financial power have greatly enhanced the attractiveness of a TSE listing for foreign companies. The number of foreign companies listed on the TSE more than doubled between 1985 and 1986, when 21 and 52 companies were listed on the TSE, respectively. As of November 1987, the TSE had 73 foreign listings, compared with 72 for the NYSE.[20]

Despite the liberalization initiatives of the TSE, listing for foreign companies on the TSE is far from automatic. Foreign companies seeking to list on the TSE have to go through a costly, time-consuming listing process. Foreign companies seeking listing must meet the registration requirements of both the TSE and the Ministry of Finance.

The TSE is closely regulated by the Ministry of Finance. The primary law concerning securities in Japan is the Securities and Exchange Law (modeled on the U.S. Securities Act of 1933 and the Securities and Exchange Act of 1934), which is administered by the Ministry of Finance. The Ministry takes an active role in the listing process of foreign companies on the TSE.

Listing Requirements

A foreign company seeking to list on the TSE is required to file a detailed listing application, prospectus, and supporting documents with the TSE. The TSE makes a careful review of the application, and asks many questions during the course of its review. As the TSE has considerable information on U.S. companies and U.S. laws, the application process is much easier for U.S. companies than for companies from other countries with which the TSE has had less experience.[21]

The listing application, besides requiring extensive background information on the company, requires the submission of the following financial information:[22]

(1) Complete financial statements for the last 5 years. The financial statements for the last 3 years must be audited. In addition, the audit report for the last year must have been without qualification.

(2) When the listing date occurs more than 6 months after the beginning of the applicant's 12-month business term, then audited interim financial statements for the current 6-month period must be submitted.

The financial statements included as part of the listing application must contain details of cash flows for the business. This is a new regulation of the TSE. Financial statements of a foreign company need not be restated to conform with Japanese accounting principles; however, they must be translated into Japanese, and the amounts must be stated in the local currency along with yen equivalents.

Foreign companies seeking to list on the TSE must meet additional requirements to qualify for listing on the TSE. These requirements include the following: the foreign company which seeks listing must be listed on a stock exchange in its country of origin; the company must have been in continuous operations for at least the last 5 years; the company must have a record of pre-tax profit for the last 3 years and distributing dividends without interruption during those years; and the company must have at least 1000 shareholders in Japan before listing.

The last criterion of requiring a foreign company to have at least 1000 shareholders in Japan before listing seems impossible to fulfill, given that the company is not yet authorized to sell its shares in Japan. In practice, the Japanese sponsor (a securities company) of the foreign company seeking to list on the TSE acquires shares of the company from other stock exchanges where the company's share are traded and places them with a sufficient number of Japanese shareholders to meet the TSE's requirement. This practice underscores the need for careful planning and coordination by foreign companies seeking to list on the TSE and their Japanese sponsors long before the formal listing process commences.

To be listed on the TSE, foreign companies must receive the authorization of both the TSE authorities and the Ministry of Finance.

Filing Requirements

As part of the continuing disclosure requirements, foreign companies are required to submit audited parent and consolidated statements to the Ministry of Finance and the TSE within 6 months of the closing date of each fiscal year. In response to complaints from foreign companies and a wave of delistings by foreign companies in the late 1970s, the TSE eased disclosure requirements for foreign companies. In 1983, the TSE abolished the "double audit" requirement for foreign companies under which listed foreign companies had to have their financial statements re-audited by Japanese auditors in addition to their home country audit. Furthermore, in 1983, the TSE extended the time period by which foreign companies were required to file their annual reports from 3 to 6 months. These reforms greatly reduced the hardships faced by listed foreign companies in meeting the disclosure requirements of the TSE.

Listed companies are required to file semi-annual interim reports within the TSE and the Ministry of Finance. In contrast to the NYSE requirements, interim reports filed with the TSE and the Ministry of Finance must be audited. Listed companies are also required to issue current reports of any significant information which affects the company. The TSE can also request information from a listed company and require the company to make prompt disclosure of such information.

The TSE authorities made a concerted effort to revise the listing and filing requirements for foreign companies and align them more closely with those of other major international stock exchanges. This is indicative of a serious commitment to the liberalization and internationalization of the TSE. Yet as the Japanese themselves note, a TSE listing is not for every foreign company; procuring and maintaining a TSE listing can be a time- and money-consuming process without any immediate benefits.[23]

The European Economic Community (EEC) Initiative

The London, Frankfurt, and Paris stock exchanges are located in member countries of the EEC. EEC directives affect accounting pronouncements as well as stock market legislation of member states. Those EEC directives on the harmonization of legislation in security transactions are important to understanding the stock markets of individual EEC states.

One of the aims of the EEC is to create a unified European capital market. The EEC has passed directives designed to harmonize legislation affecting security transactions. After considering the diverse listing and filing requirements of various stock exchanges in the EEC, the Council of Ministers of the EEC has adopted to date three directives to harmonize the rules and minimum standards for admission and continued listing on stock exchanges in member countries.

The first directive (79/279/EEC), adopted March 5, 1979, prescribes minimum conditions to list securities on the stock exchanges of member countries. It specifies certain numerical standards of eligibility designed to provide assurance on the quality of the stock to be listed in terms of liquidity, shareholder base, and negotiability. This directive also stipulates reporting and disclosure requirements, publication and distribution of annual reports, accounting conventions to be followed, and the timely release of information on significant events which affect the company.

The second directive (80/390/EEC), adopted March 17, 1980, concerns the content, checking, and publication of prospectuses before the official quotation of securities on a stock exchange.[24] Under this directive, the prospectus should include information of company directors and officials, independent auditors, the company's line of business, and its capital structure. Information on recent developments and significant trends in production, sales, costs, and selling prices since publication of the last annual report is also required.

The third directive (82/121/EEC), adopted February 15, 1982, requires listed companies to provide to the public semi-annual reports on a regular basis. These reports should include two sections: (1) a financial section, presenting certain financial information at a minimum reporting turnover and profit and loss before or after taxes, and (2) a non-financial section, including an explanatory statement which discloses significant information that would enable investors to assess the future prospects of the company and to assist in comparisons with earlier periods.

These three directives specify minimum requirements for the admission and continued obligations of listed companies after admission. The directives also provide for the member states to impose additional requirements deemed necessary for the proper functioning of their capital markets. Some member states have implemented the above directives by national laws and decrees. Even though these directives permit considerable latitude and flexibility to member states in their enforcement, their implementation would greatly enhance the harmonization of the listing and disclosure requirements of the stock exchanges of the EEC countries.

The London Stock Exchange

In recent years important structural and regulatory changes have been made by the London Stock Exchange to remove archaic practices and obsolete technology. The successful implementation of most aspects of the "White Paper" proposals (February 1985), intended to instill a new-style financial community, has enabled the London Stock Exchange to retain its reputation as a major international financial center.

Although its domestic equity market is small in comparison with that of the NYSE, the London Stock Exchange equity market for foreign shares is the world's largest. Its international time zone enables the London Stock Exchange to mesh with the closing of Far East stock exchanges as well as the opening of the American stock exchanges, and thus provides a strategic position in 24-hr trading activities. The London Exchange's traditional commitment to an international trading floor, as shown by its 505 listings (September 1986), by far the highest of any stock exchange, and its efficient though non-restrictive regulatory framework, makes the London Stock Exchange one of the most desirable exchanges for foreign listing.

Long distinguished by its self-regulatory framework, the London Stock Exchange under the proposals of the White Paper will now be governed by a U.S.-style system. In early 1987, the London Stock Exchange became subject to a regulatory framework in which the Securities and Investment Board (SIB), a private sector body with statutory powers, holds oversight powers over the Exchange's activities. Concerns are already being expressed in financial circles that Britain's new financial-market rules may diminish London's role as a major financial center.[25] The relationship between the London Stock Exchange and SIB is still not well defined; the Financial Services Act of 1986 ("the Act"), states that the SIB should provide oversight indirectly rather than directly.

Listing Requirements

The "Admission of Securities to Listing" (the "yellow book") discusses the admission requirements and listing agreement of the London Stock Exchange. The Act reflects, but is not restricted to, the three EEC directives discussed earlier. Besides meeting certain numerical standards of eligibility, all companies, domestic and foreign, which seek listing must file a prospectus under the Act.

A prospectus is required to provide background information of the company, its main line of business, details of incorporation, and details of share capital. Additionally, under the Stock Exchange (Listing) Regulations (1984), the prospectus must be accompanied by a declaration by the directors of the company as to the completeness and legality of all documents furnished. Though considerable confusion exists, the inclusion of this specific declaration indicates that at a minimum the company directors will be held liable for the contents of the prospectus. However, unlike in the U.S.A., this liability is not strict, and defenses are available if defendants can demonstrate that they were unaware of misstatements or had reasonable grounds to believe the claims made in the prospectus. The absence of strict liability, to an extent, helps explain the tenor of predictions by the directors on the future of the company and expressions of optimism in the prospects section of the prospectus submitted in the U.K., so starkly absent in the U.S.A.

Financial information to be submitted with the prospectus is as follows:[26]

(1) Audited information for the last 5 years with respect to the profits and losses, assets and liabilities, financial record and position, set out as a comparative table together with the notes on the annual accounts for the

last financial year must be disclosed. If the issuer prepares both own and consolidated annual accounts, it must include both sets of accounts in the listing particulars.

(2) Where more than 9 months have elapsed since the last annual reports were published, an interim financial statement on the same basis of consolidation as the annual report, covering at least the first 6 months of the current financial year, must be prepared. If such a financial statement is unaudited, that fact must be stated.

(3) Financial information on companies acquired by the group since the date of the last balance sheet must be disclosed.

(4) A statement by the independent auditors, on the business and financial prospects of the company, with reference to risk factors and profit forecasts, is also required.

The fourth requirement again demonstrates the different approaches and assumptions of accounting practice in the U.S.A. and U.K. Although the SEC has allowed limited use of profit forecasts, U.S. accounting practices which are founded on the concept of "conservatism", while requiring substantial disclosure of risk factors, discourage expressions of optimism. On the other hand, in the U.K. the discussion of risk factors is not as detailed as in the U.S.A., whereas profit forecasts are an acceptable feature of the financial statements.

Filing Requirements

As part of the listing agreement, listed companies are required to provide regular information to investors. Audited annual reports are required to be filed with the stock exchange within 6 months of the end of the company's year. The companies are not required to publish these reports and distribute them to shareholders. Interim reporting requirements require the publication and distribution of half-yearly reports among shareholders not later than 4 months after the end of the period to which they relate. Such reports need not be audited. Further, the company must notify shareholders of any major new development in its sphere of activity that is not public knowledge and that by virtue of its importance is expected to have a substantial effect on the price movement of the company's shares.

All documents furnished must be in English. An auditor's report must be attached to all copies of the annual accounts, indicating whether in the auditor's opinion the accounts give a "true and fair view." An auditor's report that conforms to auditing practices in the U.S.A. is acceptable. For a company incorporated in a non-EEC member state that is not required to prepare its accounts to give a "true and fair view" but is required to convert them to an equivalent standard, the latter may be sufficient.[27]

Foreign companies are not required to comply with U.K. accepted accounting principles or legal conventions; however, compliance with international accounting standards (IAS), issued by the International Accounting Standards Committee (IASC) is encouraged. Any significant departure from or non-compliance with these standards must be disclosed and explained in the accounts. Foreign companies are, however, not required to comply with *IAS No. 14* on segmental reporting.

Although there are major differences in the regulations of the London Stock Exchange and the NYSE, the concern for the investors' interest, the takeover activity, and the internationalization of the capital marketplace have helped considerably to narrow these differences. The London Stock Exchange serves as a model for various stock exchanges of Europe. The changes in London are influencing Continental exchanges.

The Frankfurt Stock Exchange

Traditionally, equity financing has not been as important as bank financing to raise capital for companies operating in West Germany. The effort to promote share capital issues through groups such as the Working Group for the "Promotion of the Share," a joint undertaking of banks, has generated stock issues. The German stock exchanges, and the Frankfurt Stock Exchange in particular, have some sophisticated electronic data transmission systems, which facilitate quick and orderly trading.

The foreign presence in the Frankfurt Stock Exchange is significant, accounting for approximately 15% of the annual turnover (market value) of the Frankfurt Stock Exchange in the 1980s. As of September 1986, 225 foreign companies were listed.

The regulatory framework of the Frankfurt Stock Exchange contrasts sharply to the New York, Tokyo, and London stock exchanges. All stock exchanges in West Germany are supervised and administered under the jurisdiction of the state governments. The National Banking Act gives banks a monopoly over most security transactions. West German banks provide the full spectrum of financial services, including acting as investment houses. All applications for listing on the Frankfurt Stock Exchange must be sponsored by a bank.

The "Order on Admission to the Stock Exchange," effective May 1, 1987, governs the admission of securities to official trading on West German stock exchanges. This decree significantly revises the listing and filing requirements of the Frankfurt Stock Exchange. It also incorporates the three EEC directives discussed earlier and provides stricter general conditions for admission and wider-ranging obligations for listing and filing requirements.

Listing Requirements

For listing, all applications and a prospectus must be submitted to the Admissions Office (Zulassungsstelle), which administers and monitors the admission process and the disclosure requirements. As with the London Stock Exchange, the new decree requires that the prospectus include an explicit statement by persons or companies (the sponsoring bank) of responsibility for the contents of the prospectus, and that the information in the prospectus is correct and complete. Such a statement effectively places liability for the contents of the prospectus on the issuing company and the sponsoring bank and not on the Admission Office.

The listing prospectus must contain background information on the company, including a statement of the type of business and its future prospects. The prospectus should be accompanied by the following financial documents:[28]

(1) Consolidated financial statements for the last 3 years, which should include profit and loss statements, balance sheets and statements of sources and application of working capital (or cash basis), in the form of a comparative presentation. The notes in the annual accounts for the previous fiscal year should also be furnished. Financial statements submitted should have been audited by independent auditors.

(2) If 9 months have elapsed since the date of the last annual financial statements, then interim accounts for at least the first 6 months of the current fiscal year are required to be included in the prospectus. If such financial accounts are unaudited, that fact must be stated. If the issuer prepares consolidated financial statements, the Admission Office decides whether consolidated interim accounts are to be presented.

(3) If any significant changes have occurred since the end of the last fiscal year or the date of the last interim accounts, such changes must also be included in the prospectus.

The regulations are not very explicit on what foreign companies should do in cases where the accounts of a foreign company are based on accounting principles other than West German GAAP. They simply state that additional information may need to be supplied.

Filing Requirements

The continuing disclosure requirements require listed companies to file annual and interim reports. The annual reports must be audited and follow the form and content prescribed by the German Stock Corporation Act. The Admission Office may allow annual financial statements in summarized or abbreviated form, if it believes the loss of information is insignificant and the place where the complete version can be obtained is stated.

Until recently, interim disclosure was not compulsory for companies listed on the Frankfurt Stock Exchange. However, the EEC third directive on interim reporting, incorporated into West German commercial law through the 1987 decree, makes such disclosure mandatory. Some latitude remains, as reports may be prepared in another language, provided that the language is not unusual in the field of investments in foreign securities, considering the affected investors.

The requirements of the Frankfurt Stock Exchange are less stringent than those of the New York, Tokyo, and London stock exchanges. However, the implementation of the EEC directives through the 1987 national decree have greatly reduced this disparity.

The Paris Stock Exchange

The Paris Stock Exchange, like the Tokyo Stock Exchange, is an example of a state-controlled regulatory framework. The Paris Stock Exchange is a closely regulated market under the supervision of the Secretary of the Treasury and the Commission des Operations de Bourse (COB), members of which are appointed by the government. In general, the Paris Stock Exchange has been somewhat stifled by complex administrative procedures. Recent reforms, particularly the implementation of the proposals of the Perouse Commission in 1980 designed to simplify and liberalize the rules of capital market operations, have breathed fresh life into the Paris Stock Exchange. The general financial deregulation of French banks also provided an impetus to this trend.

As part of its modernization plan for the Paris Stock Exchange, the French government established a financial futures market in Paris in July 1985, installed a computer-assisted trading system (originally developed by the Toronto Stock Exchange) in 1986, and extended stock exchange (bourse) trading hours. The results have been favorable, as is shown by the strong recent growth in trading and listing volume.

Listing Requirements

Companies seeking a listing on the Paris Stock Exchange are required to file a detailed application with the COB and the Chambre Syndicale des Agents de Change (Chambre Syndicale), under the Companies Law of 1966, amended by the law of January 1983. The Chambre Syndicale is the governing body of the brokers association in France and gives recommendations to the COB on the liquidity and trading potential of the applicants' shares. In this regard, applicants are required to meet certain numerical standards of eligibility.

The COB attaches great importance to the prospectus and after consultation with the Chambre Syndicale may require several modifications and revisions of the document before giving its final approval (visa). A normal listing could take from 4 to 6 months. In addition to background information of the company, the prospectus should include:[29]

(1) Audited annual reports for the last 3 years.
(2) Interim reports published during the 12 months preceding the date of application.
(3) If more than 9 months have elapsed between the end of the previous accounting period and the decision of COB for admission, the accounts of the last 6 months accompanied by the certification of the legal auditors are also required.

In contrast to the rather informal practice of the Frankfurt Stock Exchange, the COB and Chambre Syndicale conduct a very careful examination of the prospectus and statements provided. They may even require a detailed review of the applicant's accounts by an outside auditor. Sometimes officials of the COB and Chambre Syndicale may personally visit the company. Because of the detailed examination by the COB, it becomes very difficult to establish negligence or misrepresentation on the part of company officials in respect to the claims made in the prospectus, if the prospectus has received the COB visa. This is in sharp contrast to the New York, Tokyo, London, and Frankfurt stock exchanges where such an assurance is not usually available.

Foreign companies, in addition to fulfilling domestic admission regulations, are also required to meet certain requirements, including that the company be listed on a stock exchange of its country of origin, that the intention that French residents can hold shares be made explicit, and that all public documents and accounts distributed at shareholders' meeting be translated into French.[30]

To be listed on the Paris Stock Exchange, foreign companies must receive the authorization not only of the COB but also of the Minister of Finance. Financial statements of foreign companies contained in a prospectus are not required to be restated to conform to French accounting principles; however, they should be translated in French and be understandable to a French reader. A statement to that effect is required from an independent auditor. This independent auditor is appointed by the sponsoring bank with the agreement of the COB to check the translation of accounts, in particular the translation of the footnotes, as well as the usefulness and appropriateness of the complementary notes and adaptations.[31]

Filing Requirements

Once a company is listed, it must provide annual audited consolidated financial statements to its shareholders. In addition, listed companies are required to publish an interim 6-month report periodically in the French financial press, and file with the COB and the Chambre Syndicale. Any significant information, financial or otherwise, must be promptly reported to the COB. In fact, the COB requests that listed companies designate a company spokesman to answer any questions by the COB. Foreign companies are required to provide French translations of all reports. An independent auditor's certification of the translation and its understandability is not required as in the case of the prospectus.

The regulations of the Paris Stock Exchange are strictly enforced by the COB and like those of the Tokyo Stock Exchange leave little flexibility compared with other regulatory frameworks, such as the self-regulating systems (the London and New York stock exchanges) and the banking-influenced system (the Frankfurt Stock Exchange). Despite the rigidity inherent in the regulatory system of the Paris Stock Exchange, reforms adopted are indicative of a serious commitment to the internationalization of the exchange.

Conclusion

The internationalization of the equity markets appears to be irreversible and is gaining momentum, as is shown by the growing number of foreign listings on stock exchanges around the world. As long as the advantages – financial, strategic or commercial – from a foreign listing outweigh the disadvantages, companies will have an incentive to list their stocks on foreign stock exchanges.

The simplification and harmonization of securities regulation in major stock exchanges have facilitated the internationalization process. As listing and filing requirements have a strong influence on a company's decision to list on a particular foreign stock exchange, major stock exchanges are attempting to simplify and harmonize listing and filing requirements to attract foreign listings. The harmonization process is nowhere as evident as in the equity markets of the EEC countries. The imprint of the three EEC directives on securities legislation is clearly discernible. On a broader spectrum, market forces manifested by such trends as international takeovers and significant cross-border currency flows have also exerted tremendous pressure on national market regulators to simplify and harmonize securities legislation.

Some significant differences in listing and filing requirements still remain, as is shown by the listing and filing requirements of the five stock exchanges discussed. The differences are not so much in the content of the regulations but rather in the manner of enforcement. The degree and quality of enforcement are often a function of the regulatory framework under which a stock exchange is operating. Companies seeking to list their shares on a foreign exchange should consider not only the formal listing and filing requirements of the various stock exchanges but also the regulatory framework in which the various stock exchanges operate.

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The Inappropriateness of International Accounting Standards in Less Developed Countries: The Case of International Accounting Standard Number 24 – Related Party Disclosures – Concerning Transfer Prices

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Key words: Less-developed countries; Transfer pricing disclosures; Transnational corporations

Abstract: Transfer pricing by Transnational Corporations (TNCs) in Less Developed Countries (LDCs) is a "related party transaction". It has concerned many organizations, including the United Nations, development economists and LDC governments, for some time. International Accounting Standard Number 24 – Related Party Disclosures, attempts to prescribe a reporting framework necessary to detect and control unfair transfer prices and other types of related party transactions). From the point of view of LDCs, the author believes the standard fails to achieve this objective. This paper describes a normative disclosure model developed within the framework both of known incentives for transfer pricing and known strategies used to exploit these incentives by TNCs in LDCs.

"Accounting standards-setting is controversial and problematic at the national level but at the international and multinational level it becomes even more complex, multidimensional, and dynamic".[1] Despite such complexity, professional accountancy institutes in the developed countries – through the International Accounting Standards Committee – have proceeded to issue international accounting standards which they apparently regard as capable of being applied in a world-wide context. The fact that international differences in the legal, social and economic environments – and hence, in accounting information requirements – will severely limit such world-wide applicability is a matter that has remained largely unresolved. In fact, it would appear that this problem has at best been assumed away and, at worst, never identified.

One area which demonstrates the importance of taking into account societal needs in the compilation of accounting standards is the controversial subject,

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"related party transactions", especially as they relate to the activities of Transnational Corporations (TNCs) in Less Developed Countries (LDCs). The particular related party transaction with which this paper is concerned, in the context of TNC activities in LDCs, is the controversial concept of "Transfer pricing".

In examining this problem the following issues will be raised:

(1) the concept of transfer pricing;

(2) incentives for transfer pricing and TNCs in LDCs;

(3) IAS 24 disclosure requirements and their adequacy/inadequacy to LDCs;

(4) transfer pricing and normative TNC disclosure requirements.

Related Party Transactions

International Accounting Standard (IAS) Number 24 – Related Party Disclosures,[2] defines a "related party transaction" as "a transfer of resources or obligations between related parties, regardless of whether a price is charged". The standard also defines "related party": "parties are considered to be related if one party has the ability to control the other party or exercise significant influence over the other party in making financial and operation decisions". The standard further explains those related party relationships with which the standard is concerned and adds: "In considering each possible related party relationship, attention is directed to the substance of the relationship, and not merely to the legal form" (paragraph 5). Paragraphs 7, 8 and 9 of the standard attempt to explain why related party transactions are important enough to be made the subject of a separate accounting standard.

As previously noted, this paper focuses on those related party transactions concerned with the pricing of goods or services transferred between two or more related parties. The concern is with the pricing of goods and services transferred between a company's domestic divisions and foreign subsidiaries or among those foreign subsidiaries themselves.

Such transfers may include the flow of raw materials, semi-finished goods, finished products and a wide range of services. One is not concerned with the concept of transfer pricing *per se* as this is a normal feature of commerce and business (IAS 24, paragraph 7); rather, one is concerned for the following reasons:

(1) Approximately 60 percent of all international trade is estimated to be transfers between related companies.[3]

(2) As this paper is concerned with the transfer pricing practices of TNCs in the developed countries in selling goods and/or services to their subsidiaries in LDCs, it is submitted that the inability of governments in LDCs to assess the fairness of these transfer prices is a matter for concern.

(3) The use of unfair transfer prices by TNCs in LDCs has been clearly documented,[4] and, the inducements to indulge in such practices have been highlighted.[5]

(4) Despite all the above, the accounting profession appears to have ignored the problem; it has tended to examine the issue of transfer pricing from a management accounting perspective, with relatively little attention being given to external financial reporting.[6]

The author believes the efforts of the International Accounting Standards Committee – through IAS 24 – amount to little and it is unlikely that a body such as the IASC, dominated as it is by powerful developed country professional accountancy bodies (The American Institute of Certified Public Accountants, the various British accountancy institutes and others), whose clients include TNCs operating in LDCs, will make recommendations that benefit LDCs.

This paper's concern with TNC transfer pricing practices in LDCs is based on the writer's belief that IAS 24 fails to solve the problem – it cannot solve the problem as it is based on the erroneous belief that financial information disclosure requirements of LDCs can be met by internationally standardized accounting practices.

Transfer Pricing by TNCs in LDCs

The extent to which TNCs tend to use various transfer pricing permutations – the objective being either to maximize global profits or to minimize taxation liabilities – in transferring goods or services to their subsidiaries in LDCs, has been clearly demonstrated, particularly in the literature on development economics. Plasschaert[5] has argued that:

"In a multinational setting in which each sovereign state enacts its own laws and regulations, artificial modulations of the prices on internalized transactions hold the promise of shifting the burden of taxes or other governmental measures to the comparatively more lenient jurisdiction and, accordingly, will result in a net advantage to the MNE, viewed as a global entity."

The American Accounting Association,[3] the United Nations[7] and Tang and Chan[8] among others, have also demonstrated the widespread use of unfair transfer pricing techniques by TNCs. The precise details relating to the practices will, therefore, not be discussed here. Instead, this paper will focus its attention on the incentives for the use of unfair transfer prices by TNCs in LDCs. Such incentives, and the circumstances in which they apply, will form the basis of the development of a "normative" model of information to be disclosed by these organizations to governments of LDCs.

Incentives for Transfer Pricing

Several writers[4,5,8,9] have contributed to the area of specific conditions that need to prevail in LDCs to induce TNCs to use unfair transfer pricing techniques. Kim and Miller[9] tried to assess the degree of importance attached to nine factors that are potential influences on transfer pricing decisions; they examined 342 U.S. transnational corporations with subsidiaries in Asia and South America. These factors were:

(1) income tax liabilities within the host country;

(2) domestic income tax liabilities within the United States;

(3) tariffs and/or customs duties within the host countries;

(4) exchange controls within the host country;

(5) profit repatriation restrictions within the host country;

(6) domestic quota restrictions within the United States;

(7) credit status of the U.S. parent firm;

(8) credit status of the foreign subsidiary or affiliate;

(9) joint-venture constraints within the host country.

The study showed that profit repatriation restrictions and exchange controls within the foreign subsidiary country received the highest ranking; taxation liabilities in the LDC were ranked fifth, and joint-venture restrictions in the host country were ranked third. A crucial point revealed by this study relates to the low ranking attached to taxation considerations in the LDC. Kim and Miller[9] made the point that this is contrary to common beliefs.

To a very large extent, the findings of the above study, particularly with respect to the low ranking given to LDC taxation legislation, were supported by the results of the study by Tang and Chan.[8]

With respect to tax liabilities, these two writers argued that "Carefully designed transfer prices may yield substantial tax savings, or they can be used to overcome some import restrictions imposed by host countries. However, tax considerations and restrictions by foreign governments are not the only environmental variables considered in formulating international transfer pricing policies" (p. 4).

The above conclusion was a result of questioning 20 Japanese and U.S. corporations on 20 environmental variables of international transfer pricing. These variables, among others, included: the overall profit of the company, foreign country restrictions on profit/dividend repatriation, the competitive position of the foreign subsidiary, performance evaluation, income tax considerations, devaluation and revaluation of foreign currencies, the risk of expropriation, and domestic government requirements on direct foreign investments.

After polling both Japanese and American TNCs the results revealed that "overall profit" received the highest rating by both groups. Four other variables to which high ratings were given by the U.S. firms are: restrictions on the repatriation of profits, competitive position of foreign subsidiaries, income taxes and performance evaluation. The Japanese firms also gave high ratings to restrictions on repatriation of profits, competitive position of foreign subsidiaries and performance evaluation. Income Tax considerations, however, were given relatively low ratings by the Japanese.

In contrast, high ratings were given by Japanese firms to the devaluation and revaluation of foreign currencies. Variables surprisingly given very low ratings by both national groups include antitrust legislation, risk of expropriation, and domestic government requirements on direct foreign investments.

Despite the results of the above studies, the crucial factor for TNCs appears to be the need to develop out an optimal position, given the objective – whether tax minimization or profit maximization. Indeed it has been argued that

"the Multinational Enterprise is basically indifferent as to the channels through which it obtains a return out of a foreign venture. If, for example, remitting licensing fees is less burdensome from the tax angle, than the repatriation of dividends, the fees may be raised. The Multinational Enterprise will be better off if it chooses the least-burdened route open to it."

Similar incentives for transfer pricing were also identified by Plasschaert in his list of inducements other than corporate tax considerations; these include customs duties of the host country, foreign exchange risks, repatriation of profits or capital, joint-venture restrictions, host country price controls, competitive position of the subsidiary, trade union claims for wage increases, etc. Finally, Lall[4] also found evidence of broadly simihar incentives. He listed these under two main groupings related to (1) inducements to maximize present profits, and (2) inducements based on the need to minimize risk and uncertainty.

Inducements under the first grouping include host country policies on taxation, tariffs and subsidies (e.g., subsidies on exports), joint-venture restrictions, exchange rate speculation, and quantitative restrictions, such as restrictions on profit repatriation and controls on the payments of royalties and management fees to the parent firm.

The latter group of inducements include political and social pressures, such as trade union demands for a larger share of the profits and government threats of nationalization, and direct threats to profits, such as price controls by host governments and dangers of increased competition, which may be attracted by declared higher profits in the host country.

The above studies give a fairly adequate account of situations which will induce TNCs to indulge in unfair transfer pricing strategies for goods or services which they sell to their subsidiaries in LDCs. The list of incentives is, of course, not exhaustive as the precise strategy adopted by each TNC will be determined by conditions prevailing in a particular LDC at a particular time; such conditions are likely to be ever-changing.

For illustration purposes, a few examples of how some of the above incentives have been exploited by TNCs follow.

(1) The precise action taken by a TNC to exploit a partiular incentive will, of course, depend on what the objective is. For example, the objective might be to minimize taxes and other payments to LDC governments. In this case, the TNC will manipulate prices of intra-corporate transactions in goods and services to raise profits in those countries where lower tax rates prevail and reduce them in countries where they are higher. Of course, the successful exploitation of this incentive will depend on a number of factors. Perhaps the most important of these is the level of import duties compared with corporate tax rates in the local LDC where the recipient TNC subsidiary is located.

(2) Lall[4] observed that "it will pay the firm to overprice these transactions ... as long as the difference in effective tax rates exceeds the tariff ... on those imports" In some cases, the objective might be to lessen the impact of LDC price controls on certain products regarded as "essentials". Here the TNC parent company will feel that it has a duty to support its subsidiary's application for price increases and it will do this by overpricing the imports to that subsidiary. It should be noted, however, that the resultant higher import duty payments, where applicable, need to be considered.

(3) Another objective might be to obtain or maintain market power or to penetrate new markets, particularly at the time of launching the subsidiary in the LDC, thereby enabling it to sell its products at a lower price either to increase its market share or to prevent the entry of newcomers (predatory pricing).

(4) Finally, TNCs could also overprice supplies to their subsidiaries in LDCs to lower the latter's profits so as to deflect claims for higher wages by trade unions there. In cases where the subsidiary has local shareholders in the LDC, TNCs may overprice their exports to increase their own share of the total profits at the cost of the local shareholders, and also to inflate the initial value of capital equipment contributed by way of equity participation.

As noted earlier there is nothing conceptually wrong with a strategy of transferring goods or services from one related party in a developed country to another related party in a developing country. Indeed, this paper has referred to evidence indicating that as much as half of international trade transaction today relates to related party transactions of one type or another. What governments of developing countries are concerned with, therefore, is the extent to which TNC transfer prices tend to be unfair to them.

Any mention of an "unfair price" implies that there could be a price which is fair; such a price can only be measured by some sort of yardstick; there must, in other words, be an arm's-length price, and the goods or services may be "overpriced" if transfer prices are higher than this price, and "underpriced" if they are lower. If such arm's-length prices existed and could be identified for all goods which are the subject of intra-firm transactions or if such prices could easily be arrived at by LDCs in cases where they are not readily available, then developing countries would not be concerned about TNCs and transfer pricing. Unfortunately, this is not the case, and developing nations have real problems related to

(1) determining arm's-length prices where no comparable market substitute exists (there can be wide variations, at any specific time or over a short period, in the prices of products frequently traded – in similar quantities and on similar terms of sale – nationally and internationally by a number of enterprises);

(2) difficulties in obtaining from firms the data necessary to reconstruct prices on the basis of actual costs.

The above problems are accentuated not only by the fact that in most cases the information necessary to determine the reasonableness of transfer prices for particular products must be obtained from abroad, but also by the fact that even after it is obtained, the expertise for its use tends not to be available. At the same time, it has been argued, the information as a result, is of such weaknesses that "Multi-national Enterprises" feel great pressure to have several transfer pricing policies – consistent only in their attempt to minimize global taxation – which reach a different trade-off for each country.[3] LDCs will, therefore, continue to experience serious problems in their efforts to control TNCs operating in their regions. Such efforts will have to continue if LDCs are to have a chance to become equal partners in negotiations with TNCs.

In the light of the above incentives and some of the specific ways in which they have been exploited, it is now useful to examine how IAS 24 tries to prescribe items to be disclosed to provide authorities in developed and developing countries with information necessary to control unfair transfer pricing practices.

Disclosure Requirements of IAS 24

Paragraphs 1–17 of the above standard deal with definition of terms, circumstances under which parties may be related, the related party issue and methods used to price transactions between related parties, and paragraphs 18–23 deal with what should be disclosed.

The specific requirements of the standard are

(1) Related party relationships where control exists should be disclosed irrespective of whether there have been transactions between the related parties (paragraph 25).
(2) If there have been transactions between related parties, the reporting enterprise should disclose the nature of the related party relationship as well as the types of transactions and the elements of the transactions necessary for an understanding of the financial statements (paragraph 26).
(3) Items of similar nature may be disclosed in aggregate except when separate disclosure is necessary for an understanding of the effects of related party transactions on the financial statements of the reporting enterprise (paragraph 27).

Comment

The standard does not indicate any concern with the problems of LDCs. Even if it did, it is not clear how these countries will receive the information described above as the standard does not say whether or not disclosure will be specific to LDCs. In addition, although paragraph 25 requires the disclosure of related party relationships, this is limited only to those "where control exists". It is suggested that an "Associate" relationship could be used for unfair transfer prices, just as a subsidiary can. The requirement to disclose (if there have been transactions between related parties) the types of transactions (paragraph 19 gives examples) and the elements (examples are contained in paragraph 21) of the transactions, is a welcome one, except that what is actually disclosed is left to the professional judgment of the preparer of the relevant financial statements (note the phrase: "necessary for an understanding of the financial statements"). The same "liberal" position is taken by paragraph 27 when it recommends separate disclosure where this "is necessary for an understanding of the financial statements" otherwise, similar items may be aggregated. Although one must accept that "too much detail" may be just as misleading as "too little" detail, the nature of transfer pricing data by TNCs in LDCs may be such that aggregating may reduce its usefulness of such data to governments. For example, the number of transactions of transfers of goods between a subsidiary and a parent company may not be as crucial as the price used in these transfers; every transaction must, therefore, be disclosed.

The model which should be put forward for use in prescribing disclosure requirements to be met by all TNC subsidiaries operating in LDCs should be a user-oriented one; the information prescribed for disclosure should be determined by the above incentives for the use of unfair transfer pricing strategies by TNCs in LDCs and also by well-documented cases of the actual exploitation of such incentives. One is unable to discern such an orientation in the standard or similar concerns with the needs of such users; in fact, one can submit that to the extent that concern for the needs of any user was considered in the preparation of IAS 24, it was related to the needs of developed countries. The standard cannot be described as definitive; the International Accounting Standards Committee is not in a position to take a stand which is contrary to that of a national pronouncement in a country whose support is vital to the international acceptance of a standard on that topic. Mason[10] concluded: "on a continuing basis, therefore, we may expect to see International Accounting Standards which are worded sufficiently broadly to be compatible with the position taken by the FASB and the standard-setting bodies of certain other influential countries".

Briston[11] also made a similar point: "The introduction of international accounting standards is on the surface, fairly innocuous, for the standards themselves, being lowest common denominators of practice in western countries, are highly permissive." Gray *et al.*[1] noted: "professionally developed IASC standards would seem to be influenced very largely by the needs of the investment and banking community, with special reference to best practice in developed equity markets such as the U.K. and U.S."

Developed country professional accountancy institutes will, probably always dominate the activities of the IASC and are not likely to concern themselves with the interests of the LDCs. At the same time, developing country professional accountancy institutes (to the extent that they exist) are unlikely to form any significant opposing block. In the light of this, the extent to which the forum of the IASC is the right one for the purposes of prescribing accounting standards relevant for the needs of LDCs is not clear; it is not clear (given vastly different socio-economic conditions) whether LDCs benefit from the world-wide harmonization of accounting practice at all.

As argued earlier, there is no evidence that the standard-setters concerned themselves with the needs of LDCs; indeed, there is no evidence that the disclosure requirements of IAS 24 were compiled on the basis of a careful study of user needs – even those of developed country users. The standard is therefore of little, if any, use to LDCs.

It would appear that the only way forward is for these countries to determine their own information requirements on transfer pricing and prescribe appropriate disclosure rules based thereon. The disclosure model suggested in the next section of this paper highlights some of the major issues which would need to be included in attempts by LDCs to prescribe disclosure rules for TNC subsidiaries operating in their regions.

Transnational Corporations and Disclosure of Transfer Pricing Practices: A Suggested Model

If accountants globally find it difficult to decide on how best to provide for the information needs of the various users of financial statements for enterprises operating only in one state (uninational enterprises), there are indeed added complexities in confronting the problem of standards for transnational corporations.

One way of tackling the problem might be to accept the views of the agency[1] theorists[12–14] and conclude that no separate standard-setting procedures are required; the usual forces of supply and demand will cause the production of adequate information on transfer pricing policies of transnational corporations. There is no evidence to support such an approach, particularly within the context of TNC practices in LDCs in the light of the incentives for the use of unfair transfer pricing practices outlined above.

In any case, to the extent that such disclosures (voluntary disclosure of transfer pricing practices) would lead to a reduction in TNC global profits, for example, as taxation liabilities increase, it will be detrimental to their interests; it would, therefore, be very naive for governments of LDCs to rely on the normal forces of supply and demand.

Further, support for the belief that TNCs should disclose more than at present can be discerned from the efforts of organizations such as the U.N.,[7] OECD[15] and EEC,[16] even though the extent to which they can prescribe standards for the disclosure of adequate transfer pricing information by TNCs is doubtful. This paper suggests that LDC nationals themselves should prescribe reporting requirements for these enterprises. Enthoven,[17] who has made invaluable contributions to the area of accounting and developing nations, also supports increased disclosure, although he seems to limit this to situations when interested parties have actually requested this information.

In the light of the above arguments and the extent to which unfair transfer prices are used by TNCs in LDCs, a very strong case for requiring additional specific disclosures from these enterprises. Such disclosures, footnotes, will be in addition to the annual financial statements required by governments of most LDCs and will apply to all subsidiaries of TNCs operating in a particular LDC, regardless of size. The suggested disclosures will be as follows

I. General

(1) Identity and location of the parent company.

(2) Basis of control by the parent company (for example, number of voting shares held as a percentage of issued equity capital of subsidiary).

(3) Identities and locations of other subsidiary companies controlled by the parent company, including details of the means by which each of these subsidiaries is controlled by the parent company.

(4) Identities and locations of all subsidiary companies controlled by the reporting subsidiary and the basis of such control.

(5) Identities and locations of all associated companies as follows:
  (a) companies associated with parent company – giving the basis of the association:
  (b) companies associated with the reporting subsidiary – giving the basis of the association.

The permutations of groups that TNCs can arrange tend to be endless; we do know, however, that in addition to simple groups, vertical, horizontal and mixed structures (from a financial accounting point of view) are quite common. In a vertical group structure, one parent company controls one or more subsidiaries (control as defined in IAS 3); in a horizontal structure, a parent company controls a subsidiary (subsidiary 1), which in turn controls another subsidiary (subsidiary 2) which could also control yet another subsidiary (subsidiary 3). In addition to the relationship of the parent company (via its control of subsidiary 1) with subsidiary 3, the parent company could have a direct shareholding in subsidiary 3. Finally, in a mixed group structure, the parent company's shareholding in subsidiary 1 and this subsidiary's shareholding in a second subsidiary both add to give the parent company control over the third subsidiary.

In practice, there may be far more complex structures than those illustrated above. General disclosures (1) – (5) above will provide governments of LDCs with invaluable information. It must, of course, be remembered that LDC government officials may have to conduct additional investigations to unearth further complex group relationships.

II. Accounting Policies

(1) In addition to the disclosure requirements of IAS 1 (Disclosure of Accounting Policies), transnational corporation subsidiaries should provide a detailed description of the accounting policies on intercompany transactions between
  (a) the subsidiary and the parent company;
  (b) the subsidiary and any other subsidiary controlled by the parent company (see general disclosure (3) above):
  (c) the reporting subsidiary and any subsidiary controlled by it (general disclosure (4) above);
  (d) the subsidiary and all the companies associated with the parent company (general disclosure (5(a)) above);

(e) the subsidiary and companies with which it is associated (general disclosure (5(b)) above).

Of course, the extent of the disclosures of accounting policies used will be determined by the precise group structure, of which the reporting subsidiary is a part.

III. Specific Disclosures

(1) A simple requirement that the TNC subsidiary discloses, for example, the fact that the "full cost" method is used to price transfers of goods from its parent company, is totally meaningless.[17] One still wants to know the answer to the question: what are costs? We know that various meanings could be attached to costs quite apart from the fact that these could be historical, standard or replacement costs.[18] The following are the suggested specific disclosures:
   (a) Intercompany transactions with parent company:
      (i) goods purchased from parent company (description, quantity, raw material finished product, etc.);
      (ii) details of amounts paid for goods in (i) above – with documentary evidence, e.g., invoices, receipts, etc.;
      (iii) equipment and all other tangible assets purchased from the parent company (with full details including make, type, model, etc.);
      (iv) payments made for above assets, with documentary evidence;
      (v) details of all services provided by the parent company;
      (vi) particulars (including amounts) of all payments, other than interest, made to the parent company (amount of the loan, repayment terms and purpose for which the loan is made);
      (vii) details of loans made to the subsidiary by the parent company amount of the loan, repayment terms and purpose for which the loan is made;
      (viii) repayments made to the parent company for the loan in (vii) above, broken down into (a) payments towards the capital sum and (b) payments for interest;
      (ix) dividends payable and paid to the parent company;
      (x) the subsidiary company (the reporting company) must disclose all the information as required by items (i)-(ix) above in cases where it is itself the seller of the goods and/or services referred to.
   (b) Intercompany transactions with other subsidiaries controlled by the parent company:
      (i) all details required in (i)-(x) above must be disclosed.
   (c) Intercompany transactions with subsidiaries controlled by the reporting subsidiary:
      (i) details to be supplied as in (b) above.
   (d) Intercompany transactions with companies associated with the parent company:
      (i) details to be supplied as in (b) above.

(e) Intercompany transactions with companies associated with the reporting subsidiary:
    (i) similarly, all details as required in (b) above should besupplied.
(f) Permissible transfer price:
    (i) only the "market price" shall be used for charging of goods and/or services transferred between enterprises with relationships outlined in general disclosure (1)–(5) above;
    (ii) confirmation that this price has, in fact, been used must be part of the disclosure of accounting policies used (II(a)–(e) above).

Where, because of the source of the specific transactions, some other price different from the market price has been used, full details must be given, including reasons for the use of such a price and why it is thought to be a close approximation of the market price.

There is nothing unusual in the requirement that the market price be used; indeed, a number of developed country governments have such clauses in their tax legislation on transfer pricing.[2] The critical point may not be whether or not there is in fact a market price, but whether or not the host country and the TNC can agree on a price which both believe to be fairly representative of the level of the relevant costs of the product/service in question.

The above disclosure requirements are vital to governments of LDCs in their efforts to obtain from TNCs more beneficial arrangements. There will, of course, be problems associated with the practicalities of requiring such disclosures – not least of which is the revolutionary nature of the model – from TNCs; these are dealt with in the next section.

TNCs and Disclosure of Transfer Pricing Practices: a Suggested Model – Some Possible Problems

This paper has argued that IAS 24 is inappropriate for the disclosure needs of LDCs with respect to TNC transfer pricing systems; the suggested model will result in the disclosure of more useful information for LDCs. Of course, the model presents its own set of problems, some of which will be as follows

(1) Resistance to increased disclosure by TNCs based on a variety of objections, including the cost, the limited comprehension of recipients, and the possible utilization of the additional disclosure by others to the detriment of the TNC. With respect to the "cost": whether or not the benefits of increased disclosure to LDCs will be exceeded by the costs of such disclosure to LDCs will be exceeded by the costs of such disclosure is perhaps best ascertained empirically; suffice it to say that when the level of possible savings by LDCs as a result of effectively controlling transfer prices is considered, it is unlikely that the costs of increased disclosure, even if they are somehow met by the governments of the countries concerned, will outweigh such savings. Concern about the "limited comprehension of recipients" is misplaced. Whether or not the recipients can understand the content of increased disclosures is a matter for them to worry about and not the TNCs. Furthermore, their lack of

understanding does not mean that they no longer have the right to receive information on the conduct of business operations in their own regions. The fact that such information may fall into the hands of competitors is a reasonable concern; however, there is no reason why this cannot be solved by requiring confidential reports to be made to particular users, such as LDC departments of taxes, customs, economic planning, etc.

(2) The above disclosure requirements assume that LDC officials have the technical expertise to investigate randomly some TNC subsidiaries. This may not be the case; LDCs will have to tackle this problem themselves.

(3) The model also assumes that LDC officials can with reasonable ease obtain details relating to relevant market prices for the various commodities and services that are the subject of intercompany transactions. In practice, not only are most such goods and services not likely to have a market price, but also, where such prices are available, they will be located in the developed countries.

(4) Because of their superior technical expertise, TNCs are likely to devise methods of circumventing LDC controls, because of their superior technical expertise

(5) Depending on the TNC's perception of the risk associated with better controls of transfer prices by LDCs, this may discourage some potential investors.

Although there may be problems associated with the model, it offers better prospects for the solution of the disclosure problem of TNCs' transfer pricing practices in LDCs. The accounting profession has largely ignored this problem and, where it has tried to solve it, such as the attempt by the IASC – (IAS 24), its efforts seem inadequate.

Conclusion

The use of unfair transfer prices by TNCs in LDCs and whether or not IAS 24, Related Party Disclosures, leads to the disclosure of information relevant for the detection and control of such practices by LDCs, has been the main concern of this paper. Accordingly, the incentives for the use of unfair transfer prices were examined together with what has tended to be the specific transfer pricing strategies used by TNCs. IAS 24 disclosure requirements were analyzed and found to be highly inadequate and/or inappropriate for the needs of LDCs.[3] A user-oriented normative model for the disclosure of information on the transfer pricing practices of TNCs in LDCs was therefore suggested. Problems likely to be associated with attempts to use this model were identified. It is submitted that despite these problems, the model is believed to be realistic and deserves serious consideration by LDC and international accounting authorities.

Notes

1. An agency relationship between managers and shareholders is postulated whereby managers in their position as agents have market incentives to disclose information consistent with their own shareholders' interests.

2. See, for example, the requirements of Section 482 of the U.S. Revenue Code, Subsections 69 (1)–(3) of the Income Tax Act of Canada and Section 485 (1) and (2) of the British Income Tax Act.
3. Although they were not specifically concerned with transfer pricing practices of TNCs, in LDCs, Chong and Dean[19] arrived at similar conclusions about IAS 24.

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Book Reviews

Governmental Accounting and Auditing: International Comparisons

edited by James L. Chan (University of Illinois (Chicago)) and Rowan H. Jones (University of Birmingham). Routledge, Chapman & Hall, London, 1988, 218 pp.

While much has been written describing accounting practices used in other countries, as well as the international harmonization of accounting standards, little of this has related to the public sector. The editors of this monograph have attempted to remedy this problem by compiling and editing ten papers presented at an international symposium on "International Comparisons and Harmonization of Governmental Accounting, Auditing and Financial Reporting," which was held at the University of Illinois at Chicago in March, 1987. To broaden the scope of this monograph, the editors have reprinted an article on the evolution of federal government financial management. This volume is offered, in the words of its editors, "as a beginning of more comprehensive and systematic inquiry of 'comparative governmental accounting.'"

The monograph is divided into three sections: an introductory overview, studies of particular countries, and perspectives on the comparison and harmonization of government accounting. The overview section contains two papers. The first, by Chan and Jones, reviews the "existing" literature on comparative governmental accounting (four books) and concludes that although this "is far from being virgin territory," no one has yet attempted a comparison of governments through the eyes of accountants. This observation sets the stage for the remainder of the monograph.

The second paper, which really belongs in the last section of this volume, discusses current developments on the international harmonization of governmental accounting and auditing standards. Its author, Kenneth M. Dye, is chairman of a committee, recently established by the International Federation of Accountants (IFAC), whose charge is to examine the accounting, auditing and financial reporting of governments around the world – with the view of ultimately harmonizing the public sector standards that now exist and promoting public sector standards where none exist.

Mr. Dye provides a brief history of the IFAC and describes the composition and goals of its public sector committee and how this committee plans to achieve its goals. Generally speaking, the Committee expects to devote a large part of its energies and resources to raising awareness of the need for and stimulating interest in and support for the harmonization of public sector standards. It plans to do this by means of education and research. From the information gathered over the next few years, it should be possible (theoretically) to develop a set of standards which are universally acceptable. Mr. Dye concludes his paper with a plea for persons in government service and academia to become involved in developing and promoting these standards.

The second section of this monograph contains studies of accounting as it is practised in several different parts of the world. It begins with a reprint of an article by Charles Bowsher, which originally appeared in the May, 1987, issue of the *Journal of Accountancy*. This article reviews the history of the accounting practices of the federal government, from the Treasury Act of 1789 to the present, and the attempts to reform current practices. Mr. Bowsher notes that many of the complexities of today's accounting system can be traced to Alexander Hamilton's obsession with internal controls and that most of the major changes in the federal accounting system have followed major military encounters – Vietnam being no exception. He also discusses the conceptual framework within which further changes in the federal accounting system will take place and ends with a call to the accounting profession and the federal government to work toward the common goal of an efficient and effective federal financial management system.

The Jones and Pendlebury paper provides a synthesis of accounting, auditing and financial reporting in the United Kingdom. It begins by describing the historical and political context of governmental finance in this part of the world – tracing its history from "time immemorial" (defined as any time before AD 1130) to the present. This is done in a light and entertaining manner and, in reading this paper, we learn interesting trivia such as the fact that the word "budget" derives from the French word "bougett," meaning a small purse, and that this term was first used in the 1730s to describe the practice of presenting the Prime Minister's proposals for revenue raising for the coming year. We also learn of serious matters such as the use of the Consolidated Fund and the National Loan Fund, which are the heart of government finance in the United Kingdom. The authors also discuss the control systems used in the United Kingdom, as well as the accounting, auditing and financial reporting practices. Finally, they mention some of the current accounting-related controversies in the United Kingdom, such as budgetary control, the role of governmental audits, the form of governmental financial reports and "selling the family silver" (the privatization of public sector enterprises).

The next three papers follow the same basic format as the Jones and Pendlebury paper, although with more emphasis on current practices and issues and less on history. Klaus G. Luder describes the legal administration and financial environment in which governmental accounting in West Germany functions. He follows this with a brief description of the main characteristics of the (federal) German governmental accounting, financial reporting and auditing system and a discussion of some recent developments and perspectives of governmental, accounting in Western Europe.

Alicja Jaruga provides a similar description of the essential features of governmental accounting, auditing and reporting in Eastern European nations. She places special emphasis on the role of the state budget in these centrally controlled economies and discusses controversial issues which have recently arisen. Among these are the allocation of resources to material production, as opposed to non-material production, the treatment of capital investment, the respective roles of the state budget and the marketplace, and the question of external financial reporting vs. management accounting. Interestingly, many of these controversies have existed for a long time in Western countries, although primarily in the private sector.

Ting Gang Lu describes governmental accounting in China. He briefly traces the history of accounting in his country (from the eleventh century BC to the present) and describes the system currently in use. He notes that, as in Eastern European nations, the state budget is the basic planning document and that everything in this document reflects the policies of the Communist Party and the government in meeting the requirements of the state economy. He also traces (briefly) the history of auditing in China (from 221 BC to the present) and the role of today's auditor. Finally, he discusses the manner in which China is handling the present economic reforms.

The last paper, presented by Peter Dean, is really out of place in this section. It is theoretical, rather than descriptive, and discusses the various approaches that might be used to study the governmental financial management systems of developing countries. These include the generalized approach, in which factors applicable to all countries are studied, and the individual approach, in which each country is treated as a separate case. The group approach, which combines elements of the generalized and the individual approach and enables researchers to see any one country within an appropriate, multi-country comparative framework, is also discussed. It appears that this last approach is the most feasible one. Mr. Dean also discusses various approaches to the classification of government financial management systems.

Although the Dean paper presents a number of thought-provoking and original ideas and can be of great assistance to researchers, it seems somewhat inappropriate in a volume largely devoted to describing accounting systems currently in use and related controversies. A general description of the accounting practices of developing nations, with a few case studies, would have been far more useful to students and more in keeping with the rest of this section. Given the fact that Mr. Dean chose to follow a different path from the other presenters, the editors should have at least moved this paper to the third section of the monograph.

With the exception of the Dean paper, the papers in this section are very useful from both a research and a pedagogical standpoint. Each paper provides a factual background that can be useful when formulating or conducting research in this area. More important, however, is each paper's ability to be used as a module for studying the governmental accounting practices of a particular country in an efficient and painless manner. Because they are concise and easy to read, these papers can easily be used as supplements to homework assignments in a mainstream governmental (or international) accounting course. They can also be used as references when preparing "compare and contrast" type papers.

There is, however, one problem with these papers. They focus almost exclusively on accounting at the federal level, whereas most governmental accounting courses taught in the United States emphasize accounting at the state and local levels. Much of this difference lies in the nature of the subject matter. In most of the countries reviewed, the central government tends to play a much larger role in people's lives than in the United States, where many matters of revenue-raising and the provision of services are traditionally the purview of lower levels of government. As a result, most discussions of governmental accounting must, of necessity, focus on the central government. In addition, a detailed study of federal accounting is avoided by many instructors because of time constraints, complexity of the subject matter and/or a feeling that this subject is irrelevant. The Bowsher article helps clarify much of the material found in textbooks and makes an ideal supplement when teaching federal accounting in America. It also serves the editors' purpose, to provide a basis for contrast to the papers in this section, very well.

The last section, Perspectives on Comparison and Harmonization, consists of three papers. The first, by Morton Egol, presents the views of a partner of a multinational public accounting firm on the prospects for harmonizing world-wide governmental accounting principles. Mr. Egol decries the lack of routine reports of the results of operations of governmental units, especially in the areas of performance measurement. He also criticizes the use of cash-basis accounts and the resulting misallocation of capital caused by (in his view) the present inadequate reporting. He ends with an appeal for the harmonization of world-wide governmental accounting principles – presumably similar to the principles being proposed by the Government Accounting Standards Board (GASB).

The author of the second paper in this section is a prominent social scientist, David F. Linowes. Dr. Linowes shows how accounting can provide a unique and necessary function through the application of measurement of social data. He then discusses several of these applications. Among them are policy opportunities in government and private social programs, evaluations of privatization alternatives, and approaches to the monitoring of transborder data flows. This paper, like the previous one, is intended to promote the discussion of controversial subjects. Although it raises more questions than it answers, it benefits from the remarkable insights that Dr. Linowes has gathered over his long career in public service.

The last paper in this monograph is this reviewer's favorite. In it Christopher Nobes, a British scholar, challenges two basic premises of many of the other papers:

(1) That Anglo-Saxon commercial accounting, involving accrual-based financial statements, is necessary for accountability, control and decision making by governmental units, and
(2) That such financial reporting might serve as a model for public sector auditing throughout the world.

Dr. Nobes states that the needs of various governmental units differ and that the accounting and financial reporting systems used by these organizations should directed toward meeting their own needs, not the needs of persons in other countries. Thus, a system that meets the needs of financial statement users in Great

Britain may not be applicable to a governmental unit in a developing nation or an Eastern European country. Dr. Nobes then questions the need for accrual-based financial statements in developing, as well as in fully developed, countries and the necessity for the international harmonization of government accounting principles. As one who questions the wisdom of the GASB's measurement focus/basis of accounting proposals, this reviewer finds Dr. Nobes' viewpoint very refreshing.

This volume can be used profitably by researchers and accounting instructors. For researchers, it contains a wealth of information and ideas that can be used when formulating proposals and gathering information. For accounting instructors, it makes an ideal supplement to either a governmental accounting or an international accounting text. Some of the papers in this volume are issue-oriented and can be used to stimulate class discussion. Others are more factual and can be used to show students that governmental accounting is flexible and can be adapted to the needs of different types of organizations.

There is no question that this monograph is a significant addition to the literature of governmental accounting, as well as that of international accounting – simply because it represents the first time that a series of writings on the governmental accounting practices and issues found in a variety of countries has been compiled, edited and presented in one volume. It definitely represents a good start and, hopefully, more works like this one will appear in the future.

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Accounting and Financial Reporting in Japan *by Frederick D.S. Choi and Kazuo Hiramatsu. Van Nostrand Reinhold, London, 1987.*

One of the most difficult tasks in the study of international accounting is to understand the accounting standards and practices of other countries. An accounting system is a function of the unique educational, cultural, legal, political and economic environments of each individual country.

As the countries of Europe move closer to the important date of December 31, 1992, when a more complete harmonization of laws and practices relating to the flow of goods, people and capital are to occur, they are attempting to narrow the existing differences in accounting practices. Differences in language, business practices, government regulations, taxation, and the financing of businesses have made this harmonization process very difficult, if not impossible. Language differences, in particular, have hindered the members of the European Economic Community in understanding each others' systems and finding ways to resolve those differences.

Given that these European countries have been trying to understand each other within the framework of broader economic cooperation for nearly 30 years and that they are in relative close geographic and cultural proximity of each other, consider how much more difficult it is for the rest of the world to understand Japan. Japan is an industrial country in a different hemisphere and from a significantly different historical and cultural tradition than most other industrialized countries. Language differences alone have made it nearly impossible to understand and appreciate the context in which accounting standards and practices have developed in Japan.

The major value of *Accounting and Financial Reporting in Japan* is its comprehensive overview of major accounting standards and practices in Japan. This multi-authored book is written primarily by Japanese authors from the academic, professional accounting, and corporate worlds. Two of the chapters are co-authored; the 15 chapters are written by 16 different contributors.

The quality of the translation is quite high, although the editors note that it is someimes difficult to translate some Japanese expressions literally into English. However, that does not seem to be a major problem with this book. The book is also useful for its reports of the results of a variety of studies not available in English, and includes unpublished data not available elsewhere.

The book's 15 chapters discuss a variety of topics relating to financial and managerial accounting, auditing, tax and the profession. Several of the chapters provide interesting information to help understand the context in which accounting standards and practices have developed in Japan. Each chapter is written by a different author or authors; there is some overlap and repetition of coverage. However, the editors have kept the overlap to a minimum.

The first two chapters provide useful background information on the business and economic environments in Japan. Chapter 1 describes the role of Japanese companies and the Japanese stock market in the world economy and provides information on the nature of Japanese companies in terms of legal designations. Chapter 2 concentrates more on the nature of Japanese companies and their uniqueness in terms of organization and financing sources. Good comparisons are provided in these dimensions between Japanese and U.S. firms.

Chapters 3–5 focus more on the development of accounting standards and practices in the context of the financial and tax environments. Chapter 3, The Promulgation and Development of Financial Accounting Standards in Japan, explains that the Business Accounting Deliberation Council (BADC) is the only group responsible for setting accounting and reporting standards in Japan. The BADC is comprised of 39 members, only some of whom are accountants; its members are appointed by and report to the Ministry of Finance. Thus the accounting standards are essentially set by the public rather than the private sector. This chapter is basically descriptive rather than comparative. Chapter 3 could easily be a part of Chapter 4.

Chapter 4 provides additional detail of the accounting standards and practices as found in the Commercial Code and the Securities and Exchange law. The Commercial Code is more extensive in its application, in that its regulations govern all public limited liability companies in Japan, whereas the Securities and Exchange Law applies only to certain companies involved in the securities market. For example, the Commercial Code applies to more than 1,000,000 companies, whereas the Securities and Exchange Law applies to only around 3,000 companies. In terms of orientation, the Commercial Code "is primarily concerned with the protection of creditors, the Securities and Exchange Law is oriented toward general investors. Its aim is to promote the fair trading and issuing of securities in the capital market." Chapter 4 indicates how this orientation is reflected in the information that must be provided, as well as the underlying philosophy of accounting for transactions.

Chapter 5 discusses tax accounting, the final major source of influence on accounting standards and practices. In addition to discussing tax accounting per se, the chapter also describes the interrelationships of the Commercial Code, the Securities and Exchange Law and the Corporation Tax Law. In particular, the Commercial Code and the Corporation Tax Law are closely related, and the author usefully compares the two laws.

Chapter 6 provides an interesting background on the development of the Japanese auditing profession and the impact of the Commercial Code and the Securities and Exchange Law in developing the profession, the requirements for an audit, and the procedures followed by auditors. The author discusses the nature of generally accepted auditing standards, the derivation of standards, the audit requirements of different sized companies as regulated by the two laws mentioned above, and the conflict that exists because of different audit requirements of the two laws. It is a unique situation and quite different from what one might find in the United States, United Kingdom and Canada.

Chapters 7 and 8 provide useful information on the financial reporting of Japanese companies in Japan and abroad. Chapter 7 discusses the reporting requirements under the Commercial Code and the Securities and Exchange Law, and provides an example of the financial statements required under the Commercial Code for Matsushita Electric Industrial Company, Ltd. A summary of the information provided under the Securities and Exchange Law is also given. The chapter did not contain a discussion of the differences in reporting requirements between the two laws as in the audit chapter. This would have been useful; however, the coverage of the requirements was sufficiently comprehensive.

Chapter 8 provides considerable detail of the information Japanese companies must provide in financial statements for interested foreign parties. It provides a comparison of generally accepted accounting principles (GAAP)-U.S. with GAAP-Japan and notes the implications for Japanese restatements. The author notes that Japanese firms that restate financial statements to GAAP-U.S. also tend to use U.S. auditing standards. In addition, Japanese and U.S. consolidated financial statements are compared.

Chapter 9 completes the financial reporting trilogy by discussing financial reporting by foreign companies in Japan. The chapter identifies some of the major listed foreign companies and provides a detailed discussion of the Japanese reporting requirements, as contained in the Securities and Exchange Law.

The remaining chapters cover a variety of related topics. Chapter 10 concentrates on managerial accounting issues. This is a very interesting topic, especially in view of Japanese production philosophies and systems. Cost accounting, value-added analysis, budgetary control, and performance evaluation are discussed. The author succeeds in illustrating how the Commercial Code, the Tax Act, and the Securities Exchange Law influence cost accounting standards and practices. Only one chapter is dedicated to this topic. More information on this subject is available in *A Compendium of Research on Information and Accounting for*

Managerial Decision and Control in Japan, which was published in 1982 by the International Accounting Section of the American Accounting Association.

Chapter 11 analyzes the trends of corporate finance in Japan since World War II. The author uses a database to trace those developments, and ratio analyses to indicate how companies finance growth. The author also compares U.S. and Japanese companies in terms of return on net equity and the difference between the return on total assets and the interest rate. In both cases, the U.S. measures exceed the Japanese measures.

Chapter 12 focuses on the Japanese accounting profession and provides an interesting history of CPAs in Japan. The author discusses the influence of the new CPA law in 1948 and the impact that changing capital structures and increasing internationalization are having on the Japanese auditing profession. The author also discusses the nature of public accounting firms in Japan, and the role of the Japanese Institute of CPAs in the profession and the development of accounting standards and practices.

Chapter 13 concentrates on accounting education and describes various educational tracks available to aspiring Japanese accountants. As is the case in the United States, Japanese accounting students tend to be concerned primarily with passing the national CPA examination. However, Japanese universities and other educational institutions have decided not to focus on the examination exclusively, a concern of U.S. academics as well. The author of this chapter notes, "it is clearly time for accounting educators in Japan to reconsider proposals for adding professional accounting courses to basic accounting, implementing a 5-year college curriculum, or making professional accountants' training a subject in its own right and offering it as a graduate course."

Chapter 14 is a useful sequel to the education chapter, in that it concentrates on accounting research in Japan. Some information is provided as to the general types of research projects conducted by Japanese accounting scholars, but the information is very general.

The final chapter identifies basic information sources for readers interested in the Japanese economy and capital markets, the nature of the Japanese business and legal system, key literature on Japanese accounting, and databases of Japanese companies. This information is very useful.

I strongly recommend this book for anyone interested in Japanese accounting. The book contains some very useful information and provides an overview of Japanese accounting. There are better books that describe the nature of the Japanese macro- and micro-economic systems and what makes the Japanese firms so successful, but this book provides some excellent insights into the Japanese accounting system that would be difficult to find elsewhere. Non-Japanese faculty members will find that this book can provide a good background for a lecture or series of lectures on the Japanese accounting system, and a useful supplemental readings book for students.

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INSTRUCTIONS FOR AUTHORS

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[1] William A. Dymsza, Multinational Business Strategy (New York: McGraw-Hill, 1972), 49-53.
[2] Geoffrey Holmes, "Replacement Value Accounting." Accountancy (March 1972), 4-8.

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___________. "Financial Statements Restated for General Price Level Changes." Statement of the Accounting Principles Board No. 3. New York: AICPA, 1969.
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The International Journal of Accounting

Accounting's Role in Successful Economic Development: Some Normative Evidence from the German Democratic Republic

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Key words: Economic combines; Measurement of economic output; Public company accounting reports; Public sector company incentives; Uniform charts of accounts; Units

Abstract: *The German Democratic Republic (GDR) is an interesting national economic model for many reasons. The country has enjoyed a rate of economic expansion unmatched elsewhere in the Soviet bloc and has matched that of many Western countries. Western observers have identified the German Democratic Republic's superiority of management skills and the discipline of the East German worker as primary factors for this record. East Germany has successfully organized the industrial sector of its economy into a unique system of vertically integrated trusts or combines. Managers are given responsibility for the entire production process, and various economic incentives are included in the program. The German combines or economic units are similar in many respects to Western corporations and have legal powers. They are accountable to the Ministry of the Industrial Sector and have considerable latitude over certain economic decisions. They follow a central plan involving several stages of development. East German economic units continue the use of the uniform chart of accounts, developed some generations earlier in Germany, and have used it in a unique accounting system which provides the information needed under the state sector controls. The entire system has as its goal to assist East German management, but it also operates in consort with the national pricing and wage policies.*

Introduction

Since the early 1960s the German Democratic Republic (GDR), also known as East Germany, has enjoyed a rate of economic expansion unmatched elsewhere

Accepted for publication: March 20, 1989

in the Soviet bloc and extraordinary even when measured against Western standards. In the decade 1964–1973, the rate of growth in the GDR averaged 5 percent annually; over the entire quarter of a century since 1963, it has kept pace with its Western counterpart, the Federal Republic of Germany.[1] Other East European countries, on the other hand, have struggled with their economies. In the four years 1981-1984, for example, the national income for Eastern Europe as a whole grew at an average rate of only 1.8 percent as compared with 4.3 percent for the GDR.[2]

Among the factors that Western observers have identified as contributing to the success of the East Germans *vis-à-vis* their East European allies are the superiority of their management skills[3] as well as the basic discipline of the East German worker.[4] East Germany has successfully organized the industrial sector of its economy into a system of vertically integrated trusts, termed combines *(Kombinate)*, whose managers are responsible for the entire production process in their particular industry segment from materials acquisition to post-sale customer service. In addition, various economic incentives *(ökonomische Hebel)* have been introduced to promote interest in efficiency on the part of both workers and managers.

A country's cultural environment, with its interwoven socio-economic-political elements, including economic organization, heavily influences the development of its accounting function. This symbiotic relationship is particularly evident in the GDR where the uniform system of accounting and statistics combines both Marxist–Leninist thinking and pre-existing traditional values in its overall design. The East German accounting system, which provides measures of the performance of workers, managers, and state-owned enterprises in their responses to economic incentives, must be considered an integral part of the country's economic success and merits long overdue analysis in the accounting literature. We begin by describing the administrative structure of East German industry and the budgeting and planning process which controls much of its activity.

Structure of Industry in the GDR

Administrative Structure

The organization of the East German economy involves horizontal segmentation according to economic branch and vertical stratification according to level of authority. Economic branches, each of which has its own ministry (except Industry which has several ministries), include Industry; Construction; Foreign Trade; Domestic Trade; Agriculture and Forestry; Transport; Post and Telecommunications; and Environment and Water Management. Major industrial sectors include Energy and Fuels; Chemicals; Metallurgy; Building and Supplies; Mechanical Engineering and Vehicle Construction; Electrical Engineering, Electronics and Instruments Manufacturing; Light Industry; Textiles; and Foodstuffs.

Within each of the industrial sectors there is a three-tiered administrative structure as illustrated in Fig. 1. At the foundation is the basic unit: the state-owned enterprise *(volkseigenes Betrieb)* or VEB. By definition, VEBs are "units directly engaged in economic activity" *(unmittelbar wirtschaftende Einheiten)*[6] as opposed to administrative units. As in the case of U.S. corporations, they are legally empowered to enter into contracts and to sue and be sued. Unlike U.S. corporations, their primary function is to implement the central economic plan. Further, they are subject to strict administrative control by higher organizational units.

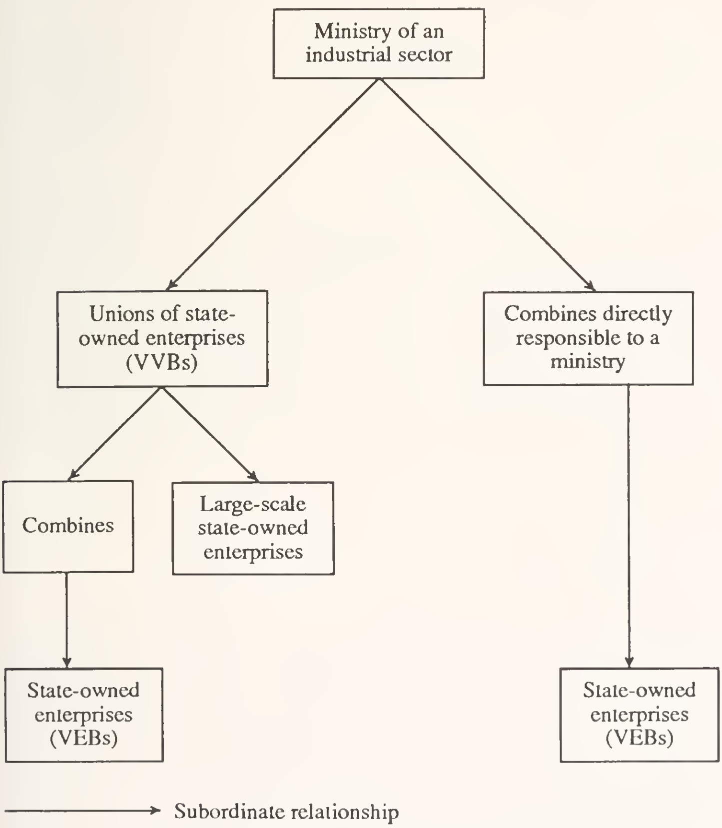


Fig. 1. The Administrative Structure of East German Industry.

Source: Prepared by the authors.

Most VEBs belong to a combine which, in the same way as VEBs, may act as legal persons. Occasionally, however, large-scale VEBs may function as combines independently. Combines form the second tier of the administrative structure and serve the dual roles of units directly engaged in economic activity and administrative units *(wirtschaftsleitende Organe)*. As units engaged in economic activity, combines often constitute major industry segments, as member VEBs typically manufacture similar products or are technologically dependent. As administrative units, combines direct and coordinate the operations of member VEBs in such as way as best to fulfil the economic plan. The benefits of combine embership for VEBs include the centralization of research and development, purchasing, advertising, and other auxiliary functions. Combines may occasionally be directly subordinate to a ministry but, more often, they are under the jurisdiction of a union of state-owned enterprises *(Vereinigung volkseigener Betriebe* or VVB).

VVBs occupy the third administrative level and function exclusively as administrative units. They are directly subordinate to a ministry or other central state department and may comprise several industry segments. In their role as a buffer between subordinate VEBs and the central authorities, VVBs primarily serve to communicate the economic policy of the state downward. In addiiton, they summarize information originating at the VEB level for transmission upward. As is the case with combines, statutory articles of association specify their administrative powers.

The managers of individual VEBs and combines are termed directors; the managers of VVBs or combines directly subordinate to a ministry are termed general directors. Lines of authority are clearly defined so that a director or general director is responsible only to the immediately superior unit. Other administrative units may issue directives to VEBs but only on the basis of special statute. Departmental managers within VEBs, combines, and VVBs are appointed by the unit director; general directors, directors, and chief accountants,[7] by the director of the immediately superior unit. A separate statute governs the duties of chief accountants in the GDR, who also function as internal auditors for the Ministry of Finance.

Economic Planning in the GDR

The process of developing the central economic plan, as illustrated in Fig. 2, is designed to involve each administrative level of industry, including the workers themselves. The original draft of a plan is drawn by the State Planning Commission, with oversight by the Council of Ministers *(Ministerrat)*. The latter comprises the ministers of the various branches of the economy, the ministers of the economy-wide functional areas (Finance, Science and Techology, Raw Materials Management), and the ministers of other central departments (State Bank, State Planning Commission, Office for Prices, Office for Labor, Office for Wages). The Presidium (ruling executive unit) of the Council of Ministers is responsible for development of the annual state budget as well as economy-wide 1-year and 5-

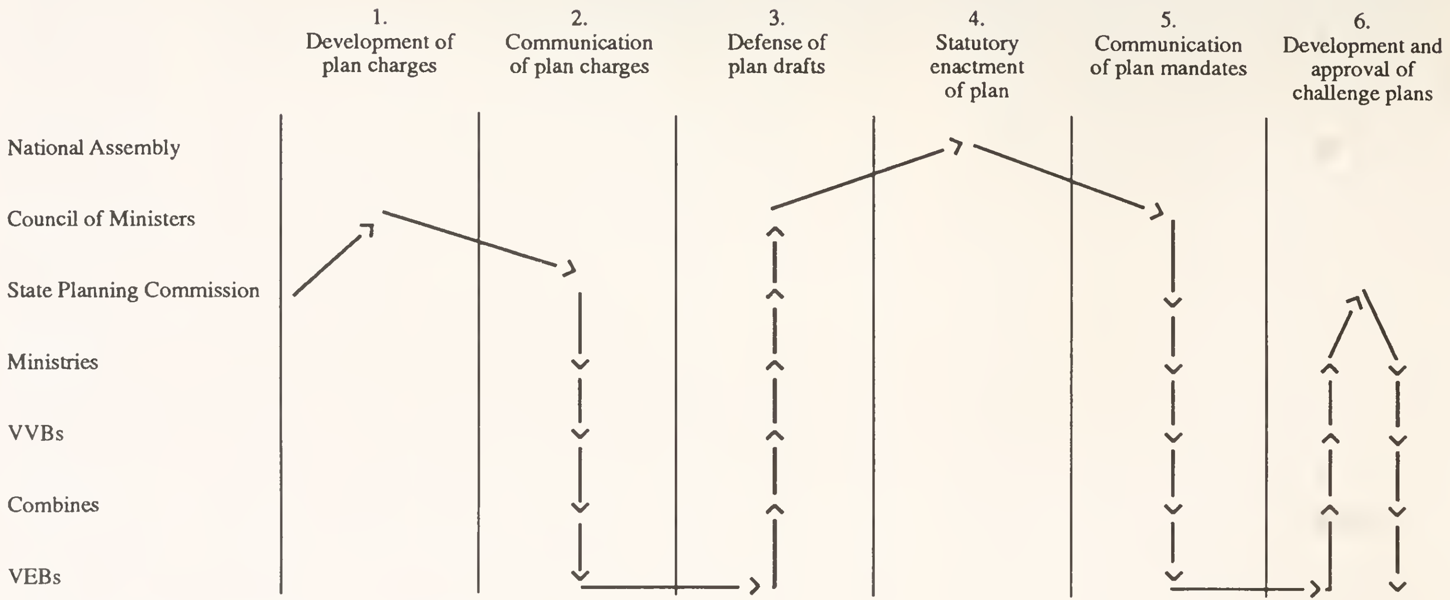


Fig. 2. Development of the Central Plan in the GDR.

Source: Adapted from Katharina Belwe, *Mitwirkung im Industriebetrieb der DDR* (Opladen: Westdeutscher Verlag, 1979), 127.

year plans based on the directives of the Socialist Unity Party *(Sozialistische Einheitspartei Deutschlands)*, or SED.

After formulation, the draft is communicated downward through the various industry ministries to VVBs in the form of plan charges *(Planaufgaben)*. In turn, VVBs disaggregate the plan charges for communication to combines and VEBs. At the VEB level a concrete plan for meeting plan charges is developed, with input from various worker organizations. The enterprise plan is defended by the VEB director at the combine level where it is incorporated into a combine-level plan for defense at the VVB level. Similar defenses take place at each administrative level until a final plan is submitted to the National Assembly *(Volkskammer)*. The National Assembly raises the ministerial budgets and plans to the status of law, making them obligatory for all administrative departments and economic units.

Once enacted, the plan is communicated downward again in the form of plan mandates *(Planauflagen)*. Finally, in conjunction with the system of economic incentives, VEBs develop challenge plans *(Gegenpläne)* for surpassing plan mandates.

State-Owned Enterprises and the East German Financial System

As the term "state-owned enterprise" indicates, enterprises in the GDR are originally established with state financing. Financial and productive means placed at VEB disposal for an indefinite period of time are termed "proprietary funds" *(eigene Fonds)*. Bank credits, which also represent a form of state financing, and other liabilities are termed "external funds" *(fremde Fonds)*. During the 1950s, external funds consisted almost exclusively of accounts payable and short-term bank credits for financing production. Investment decisions were made centrally and financed primarily through the state budget. Decentralization measures in the early 1960s, however, placed the responsibility for scientific–technological innovation and plant modernization on enterprise directors and called for VEBs to become largely self-financing. To this end, long-term bank credits for investment purposes became more readily available, and VEBs retained a greater portion of enterprise profit and fixed asset amortization. With the reallocation of decision-making authority to the combine level in the early 1970s, the responsibility for investment decisions shifted from VEB directors to combine directors. At the same time, combines also took charge of financing VEB investments. Long-term bank credits became a combine-level matter, and profits and fixed asset amortization, to the extent that they were not retained by VEBs for combine-approved purposes, were centralized for redistribution according to combine strategy.

In the 1980s, combines continued to exert control over enterprise investments and the financing of those investments. The extension of bank credits, however, is not automatic but is subject to bank approval. In this respect, the banking system in the GDR performs an important control function over the economic plan. To obtain credit, combines and VEBs not only must provide banks with documentation on their past performance in fulfilling the plan, but must also involve the banks in the planning process. Banks approve a line of credit for a combine only after assessing the potential economic effectiveness of project proposals, and once they have approved an investment plan, they often join combines in defending the plan at the VVB level. After credit has been extended for an investment project, banks monitor the progress of the project, making sure that combines and VEBs use bank funds only for planned investments and that credits extended do not exceed state-imposed norms for the industry segment (that is, the ratio of credit financing to proprietary fund financing). Banks may impose sanctions in the form of additional interest charges if combines or participating VEBs violate investment plans or credit agreements.

After approval by the National Assembly, investment plans (which are a constituent part of economic plans) become legally binding on VEBs. VEBs maintain a capital investments fund whose balance at the end of a given year contains that portion of profit and fixed asset amortization retained by the enterprise (or received as a combine distribution) for investment purposes plus the enterprise's

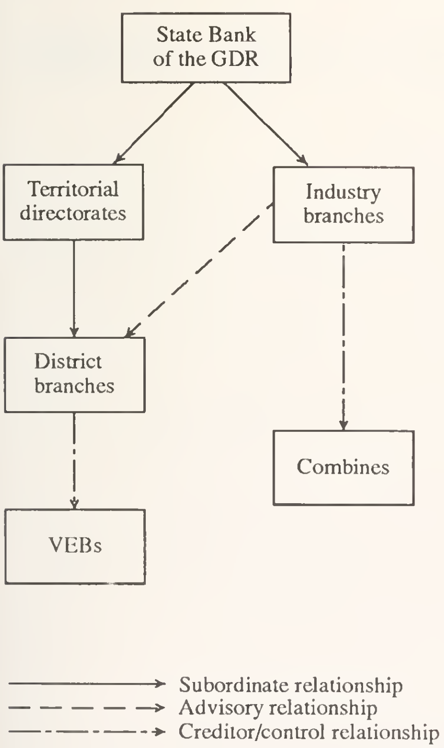


Fig. 3. The Administrative Structure of the East German Banking System.

Source: Adapted from Günter v. Grumbkow, *Sozialistische Finanzkontrolle* (Berlin: Verlag Die Wirtschaft, 1984), 115.

share of combine bank credits less investment outlays and repayments of credits. Unencumbered amounts remaining in the fund at year-end must be remitted to the combine.

Short-term credits for financing production are extended directly to VEBs. As in the case of investment credits, banks examine VEB records of fulfilling economic plans before extending credit and control for compliance with credit agreements. They also ensure that state-imposed norms for short-term credit are not exceeded, although additional credit may be granted to assist enterprises in surpassing plans or bridging short-term working capital shortages. Banks may impose sanctions in the form of additional interest charges if enterprises violate inventory plans or credit agreements.

The East German banking system, illustrated in Fig. 3, is organized in such a way that both combines and enterprises have ready access to affiliates of the State Bank. The State Bank of the GDR is itself a central state unit with representation on the Council of Ministers. Affiliates consist of both industry branches and district branches. Industry branches, which are directly subordinate to the State Bank, serve combines and provide industry guidance for district branches. Territorial directorates of the State Bank supervise district branches whose function is to serve enterprises.

The Uniform System of Accounting and Statistics in the GDR

The Uniform Chart of Accounts

Germany led Europe in the development of accounting thought and practice from the early 1910s to World War II. The science of business economics *(Betriebswirtschaft)* developed in Germany under the leadership of Schmalenbach and other accountants in the 1920s, and the concept of national industrial charts of accounts came to prominence there in the 1930s. Thus, the accounting communities in each of the occupation zones in post-World War II Germany shared concern for the reconstruction of the accounting function. In particular, as a result of a joint cross-zonal effort on the part of the Technical and Humboldt Universities in Berlin,[8] a uniform industrial chart of accounts *(Einheitskontenrahmen der Industrie* or EKRI) was developed which was very similar to the plan that the National Socialists had adopted in 1937. In 1947 the EKRI became mandatory for industry in the Russian zone but remained voluntary in the Western zones.

The EKRI resembled the pre-war chart of accounts in that its arrangement followed the production principle *(Prozessgliederungsprinzip)*. Chart-of-accounts arrangement according to the production principle calls for the sequence of account classes to follow the progression of the production process. The first series of accounts, accordingly, contains the means-of-production accounts (fixed assets, current assets, capital accounts); the second, the costs of production; and the third, work-in-process and finished goods inventories and year-end closing accounts.

In the early 1930s the production principle format involved full integration of the various cost control accounts including cost by natural category, cost by cost center, and cost by cost object into the double-entry system. The inclusion of these accounts in the double-entry system, which results in what is termed a "one-cycle accounting system" *(Einkreissystem)*, required repeated reclassification of the same data in the formal accounts. Because of the great detail involved, cost accumulation by cost center and cost object soon moved outside the formal accounts in tabular form, giving rise to what is termed a "two-cycle accounting system" *(Zweikreissystem)*.[9] As a result of this division, the function of the double-entry system (cycle one) became primarily financial accounting, and the function of the single-entry, tabular system (cycle two) cost control.

The structure of the EKRI as mandated in the east zone in 1947 reflected both the production principle and the two-cycle division of the pre-war model. Table 1 contains a comparison of the charts of accounts introduced by the National

Table 1. Comparative Charts of Accounts 1937 and 1947

Class	German industrial chart of accounts[a] 1937	EKRI (East Zone)[b] 1947
0	Long-term capital	Long-term capital
1	Financial accounts (current assets and liabilities)	Financial accounts (current assets and liabilities)
2	Adjustment accounts	Adjustment accounts
3	Materials and purchased parts	Materials and purchased parts
4	Cost categories	Cost categories
5	Reconciliation accounts (if Class 6 not used)	Reserved for clearing accounts
6	Cost by cost center (as alternative to class 5)	Reserved for production costs
7	Semi-finished and finished products	Costs of inventories
8	Revenue accounts	Costs and revenue accounts
9	Closing accounts	Closing accounts

Sources: [a]H.W. Singer, *Standardized Accountancy in Germany* (Cambridge: The University Press, 1943. Reprint, New York: Garland Publishing, 1982), Appendix II (not paginated).

[b]Bruno Lehmann, *Buchhaltung und Kostenrechnung* (Hamburg: Hammerich & Lesser, 1949), 24, 26.

Socialists in 1937 and the administrators of the East Zone in 1947. Account classes 5 and 6 in the EKRI are "reserved" for certain cost control functions, as in practice they were no longer used. The uniform industrial chart of accounts required in East German VEBs today continues to conform to the production principle and the two-cycle division of the financial and cost control functions.[10] Table 2 contains a summary of the current East German chart of accounts. Notably, no account class is reserved for production costs, that is, the cost control cycle occurs entirely outside the accounts, and one class, class 5, is now reserved for accounts peculiar to state administrative units.

Table 2. Summary of the Uniform Chart of Accounts — GDR (1986)

Class	
0	Fixed assets
1	Inventories and capital projects in progress
2	Current financial assets and debit adjustments
3	Cost categories
4	Cost summaries
5	Reserved for administrative units
6	Results from productive outputs
7	Results from nonproductive outputs
8	Bank credits, accounts payable, and credit adjustments
9	Funds and enterprise results

Source: *Erläuterungen zu Rechnungsführung und Statistik: Industrie, Bauwesen, Verkehrswesen u.a. Bereiche* (Berlin: Verlag Die Wirtschaft, 1986), 116–118.

Use of the uniform chart of accounts has been mandatory in the GDR since 1947. With combine approval, VEBs may expand the chart of accounts vertically and create detailed accounts to fit the peculiarities of their operations. The chart, however, may not be expanded horizontally by any economic or administrative unit. The cost control cycle, too, is mandatory and takes the form of cost–output analysis. Output may be measured by units of product or by weight or other technical measure if more appropriate. Documents required for cost–output analysis include a cost center control sheet *(Kostenstellenkontrollbogen)*, a cost object control sheet *(Kostenträgerrechnung)*, an output report *(Kennziffernspiegel der Kostenstelle)*, a workers' budget book *(Haushaltsbuch für das Kollektiv der Werktätigen)*, and a variance report *(betriebswirtschaftliche Analyse über die Abweichungen von Vorgaben)*. The cost center control sheet records costs by cost center and is used by management in conjunction with information from the product cost sheet and the output report for planning and control purposes. The output report provides statistical information on quantity of output, quality of output, and time factors. The cost object control sheet shows the computation of actual product costs, and the workers' budget book contains major goals of the work-force for a given time period. The variance analysis, finally, measures actual cost and outputs against established norms.

The Flow of Costs in the East German Accounting System

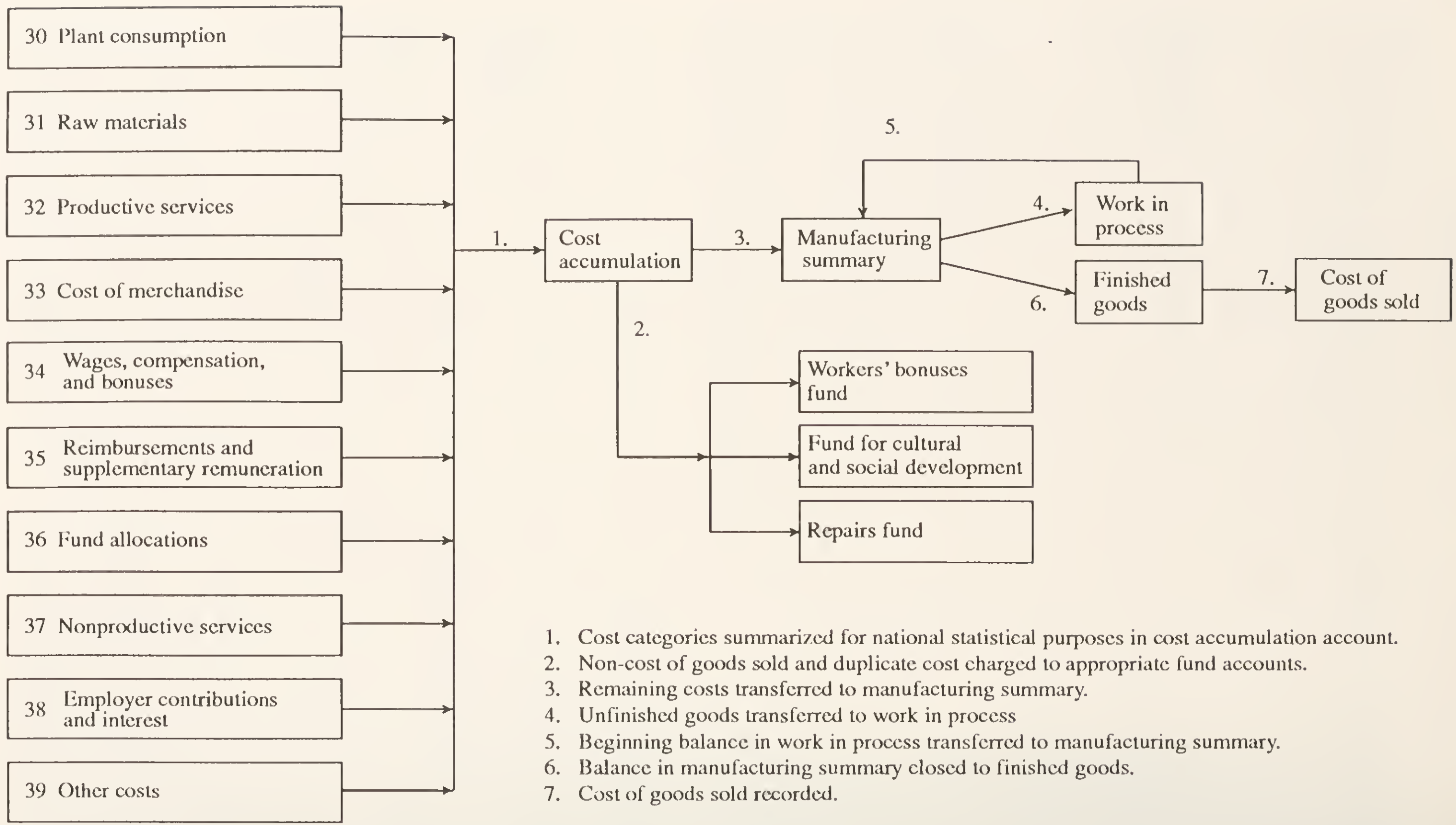
The accounting system itself in the GDR, including flows of costs, has been standardized for all industry segments since 1971. In addition to a uniform chart of accounts, the system in effect today includes both a uniform balance sheet and a uniform statement of results. Standardization was undertaken to integrate accounting on the combine and enterprise levels with the macroeconomic data collection activities of the State Bureau of Statistics. Thus, in addition to serving as a basis for planning and control on the enterprise level, accounting in the GDR serves to measure directly each enterprise's contribution to gross national product. When aggregated, in turn, the standardized accounting information that flows upward from individual enterprises yields a measure of total GNP. Because of its concern with gross national product, the system places considerable emphasis on cost summaries.

The flow of costs through the accounting system is illustrated in Fig. 4. Account class 3 contains 10 cost categories for classifying costs by nature *(Kostenarten)*. The first, plant consumption, refers to depreciation. Following the Soviet approach, plant and equipment in the GDR are depreciated on a straight-line basis, with useful lives defined by law, and the depreciation process is related to asset replacement. Concurrent with a charge to depreciation (and a credit to accumulated depreciation), a charge is made to the fixed assets fund — a balance sheet fund that represents the difference between fixed assets at cost and accumulated depreciation — and a credit to the capital investments fund, which is also a balance sheet fund. In addition, a transfer equal to the depreciation charge is made from the enterprise's general operating fund to a bank account specifically related to the capital investments fund. Asset replacement by means of depreciation (i.e. funding depreciation) is termed "amortization" in the GDR and other East European countries.

Productive services are those performed by outside enterprises and represent such services as subcontract work, repairs, shipping and warehousing, advertising, and computerized accounting services. Examples of nonproductive services, which may also be performed by outside agencies, include such disparate activities as legal counsel, security, and janitorial services.

Reimbursements and supplementary remuneration include payments for books, tuition, and commuting costs for workers attending classes; contributions to the cost of construction of private homes; and special occasion gifts to employees. Employer contributions include the employer's share of social security taxes and voluntary additional pension insurance. Fund allocations include those made to the repairs fund, the fund for cultural and social development, and the Young Socialists' fund.

After summary by category, all costs are transferred and summarized in the cost accumulation account (chart of accounts class 4), which serves primarily national statistical purposes. The summary in this account, however, includes some nonproduct charges as well as some duplicate product costs. Before the cost accumulation account can be closed to the manufacturing summary, therefore, the nonproduct charges and duplicate product costs must be transferred out.



1. Cost categories summarized for national statistical purposes in cost accumulation account.
2. Non-cost of goods sold and duplicate cost charged to appropriate fund accounts.
3. Remaining costs transferred to manufacturing summary.
4. Unfinished goods transferred to work in process
5. Beginning balance in work in process transferred to manufacturing summary.
6. Balance in manufacturing summary closed to finished goods.
7. Cost of goods sold recorded.

Fig. 4. Flow of Costs in the East German Accounting System.

Source: Adapted from Autorenkollektiv, *Buchführung: Grundkurs für ökonomische Ausbildungseinrichtungen*, 3rd ed. (Berlin: Verlag Die Wirtschaft, 1981), 54.

Nonproduct charges included in cost accumulation are those financed by sources other than cost recovery. Charges for workers' bonuses provides an example. The workers' bonuses fund is financed from profits rather than from a charge to production. Bonuses, accordingly, are not included in the cost of the product and are removed from the cost accumulation account with a charge to the workers' bonuses fund.

In the case of funds financed by cost charges, duplicate product costs occur because both the charge to fund allocation and the related actual costs that are subsequently charged to the fund are closed to cost accumulation. As an example, repairs performed by outside enterprises are charged to consumption of productive services and subsequently closed to cost accumulation. Charges to the allocation to repairs fund account (and a credit to repairs fund) are generally made on a monthly basis, summarized in the fund allocation account at period-end, and also closed to cost accumulation. (An equal amount is transferred from the operating fund bank account to the repairs fund bank account.) To avoid double counting the cost of repairs in cost of goods sold, the system requires that the actual cost of repairs be removed from cost accumulation and charged to the repairs fund.

Once the nonproduct charges and duplicate product charges have been removed from cost accumulation, the balance in the account is closed to manufacturing summary. The cost of work in process, in turn, which is determined by physical inventory, is transferred to the work-in-process account. The balance in the work-in-process account from the previous period is combined with the remaining costs in the manufacturing summary and transferred to finished goods. Finally, the cost of finished goods sold is debited to cost of goods sold.

The Uniform Statement of Results

Industrial output is sold at state-sanctioned prices, which have the following elements:

  Cost of goods at standard cost
\+ Normative profit
= Enterprise price
\+ Product taxes
− Price subsidies
= Industry sales price

Enterprise price is that amount of revenue that enterprises may actually realize before taxes, while industry sales price represents revenue from the sale of enterprise products. In the case of capital goods, these two prices generally remain the same, as the prices of such goods are formed as a function of inputs. The prices of consumer goods, on the other hands, are often set independently of inputs as a matter of perceived social equity. In these cases, industry sales price and enterprise price differ and must be reconciled. If industry sales price is greater than enterprise price, reconciliation is accomplished by means of a product tax paid to the State.

If enterprise price is greater than industry sales prices, the enterprise receives a subsidy from the State in the amount of the difference.

Total normative profit for an enterprise is the mathematical product of the normal rate of return on productive assets for the industry segment and the value of the particular enterprise's stock of productive assets. The Central Office for Prices establishes normal rates of return for industry segments, and combine directors calculate and assign total normative profit to enterprises. Enterprises then allocate total normative profit to planned production. As each unit of planned production contains a given profit element that cannot be realized if the unit is not produced and sold, enterprises can realize total normative profit only if total planned production is sold. Further, as the costs of inputs for pricing purposes are standard costs, and cost of goods sold in the uniform statement of results is based on actual costs, enterprises can only realize total normative profit if standard efficiencies are achieved.

After calculation, results from normal operations are combined with other results accounts, including results from export activities, other productive outputs, retail sales, other services, and cultural and social services, to yield total enterprise profit or loss. An overview of the uniform statement of results appears

Table 3. Overview of Statement of Results

	Statement of Results
	Revenue from sales of planned production at industry prices
−	Product taxes
=	Revenue from sales of planned production at enterprise prices
+	Changes in inventory levels (finished goods at enterprise prices)
=	Planned production at enterprise prices
−	Class 3 costs
	(depreciation)
	(raw materials)
	(cost of merchandise consumed)
	(consumption of productive services)
	(wages, compensation, and bonuses)
	(reimbursements and supplementary remuneration)
	(fund allocations)
	(consumption of nonproductive services)
	(employer contributions and interest)
	(other costs)
−	Nonproduct costs
+	Revenues not related to operations
+	Changes in inventory levels (services in advance and work in process)
=	Total cost of planned production
+	Changes in inventory levels (finished goods at budgeted cost)
+	Total cost of planned production sold
+	Profit add-ons
−	Profit reductions
+	Results from comparing output consumed internally with its industry price
=	Results of operations
+	Other results
=	Combined results of operations

Source: Adapted from Klaus Gögl, *Rechnungsführung und Statistik: Informationen fur den Leiter* (Berlin: Verlag Die Wirtschaft, 1977), 96–97.

in Table 3. A translation of Form 161 (Uniform Statement of Results), issued by the Central Bureau of Statistics, is provided in Appendix 1.

Enterprise profit, which represents a source of enterprise financing, appears on the right-hand side of the balance sheet, and its allocation is entered on the left. In the event of unprofitable operations, the loss would be entered on the left-hand side of the balance sheet, and the source of loss subvention would be shown on the right.

Prescribed profit allocations include charges to a production fund tax and a net profit tax, allocations to the workers' bonuses fund and the capital investments fund, as well as any required bank credit repayments. Of particular interest is the production fund tax. This tax was introduced in 1967 as a mechanism for encouraging efficient use of capital by managers and is calculated at 6 percent of average fixed assets plus average current assets.

To encourage worker efficiency, a percentage of profit realized beyond normative profit is also allocated to the workers' bonuses fund and to the enterprise performance fund. Benefits of the enterprise performance fund include the construction of child care centers, financing for single family homes, and group vacations.

The Uniform Balance Sheet

The basic structure of the uniform balance sheet appears in Table 4. The balance sheet is designed to disclose the stock of assets placed by society at the disposal of an enterprise, the sources of financing of those assets, and the summary results of the enterprise's operations during the accounting period ended. Each of the positions on the balance sheet may be aggregated at the national level, so that the balance sheet, like the various cost summary accounts, serves national statistical purposes as well as enterprise financial accounting purposes.

Table 4. The Basic Structure of the Uniform Balance Sheet

Debits	Credits
Fixed assets	Fixed assets fund
Current assets	Operating fund
	Bank credits
	Liabilities
Special-purpose assets	Special-purpose funds
Debit adjustments	Credit adjustments
(prepaid items)	(receipts in advance)
Profit allocation	Profit
Loss	Loss subvention

Source: Autorenkollektiv, *Buchfuhrung: Grundkurs fur ökonomische Ausbildungseinrichtungen*, 3rd ed. (Berlin: Verlag Die Wirtschaft, 1981), 12.

Balance sheet assets are classified according to both their purpose in use *(Verwendungszweck)* and the rapidity of their turnover. In contrast to the U.S. system, but in accordance with European tradition, fixed assets precede current assets. Fixed assets are those assets used in production that have a cost of 1000 marks or more and a useful life exceeding one year. They are reported in the balance sheet according to the "gross principle" *(Bruttoprinzip)*, i.e. at original cost less accumulated depreciation, "so that the degree of fixed asset deterioration may be ascertained."[11]

Current assets are those assets that turn over constantly and generally several times a year. The major categories of current assets include purchases in transit, production inventories (materials, work in process), finished goods, receivables, and cash and cash equivalents. Special-purpose assets, which follow current assets, are by nature current assets but are reported separately because they represent bank accounts for specific (special-purpose) funds. Debit adjustments, which follow special-purpose assets, are for the most part prepaid items, while credit adjustments generally represent advance receipts. Reporting loss from operations on the debit side of the balance sheet or profit on the credit side balances the balance sheet.

The sources of financing enterprise assets appear on the credit side of the balance sheet and are termed "funds". The fixed asset fund, which is a proprietary fund, mirrors and must equal the net value of the fixed assets reported on the debit side of the balance sheet.

The current assets fund, which is also a proprietary fund, reflects the extent to which current assets are financed by the enterprise itself. The amount of the fund generally remains constant over time, although it may be increased by a budgeted profit allocation. Bank credits, which represent an external fund, comprise short-term loans from the State Bank for purposes of financing current assets. Liabilities, also an external fund, occur primarily as trade accounts payable; occasionally, they occur as payables to the State, combine, or other superior unit.

Special-purpose funds earmark special-purpose assets for particular purposes. These include funds for capital investments, repairs, the Young Socialists, enterprise performance, workers' bonuses, and cultural and social development. The Young Socialists' fund is used primarily for the construction of youth centers, youth-oriented political rallies, and sports events. The fund for cultural and social development helps finance worker health care, child care, and recreational activities as well as such events as weddings and christenings. The repairs fund, the Young Socialists' fund, and the fund for cultural and social development are financed through cost charges; the capital investments fund through amortization and occasional allocations from net profit; and the remaining funds through net profit allocations.

Appendix 2 contains a translation of Bureau of Statistics Form 069, which contains the uniform balance sheet for VEBs and combines. A number of additional funds, which apply at the combine level, appear in this form. These funds include the science and technology fund, the advertising fund, the reserve fund, and the discretionary fund, all of which are financed by enterprise remittances from enterprise net profit.

Conclusion

In conclusion, we offer several observations on the development of the East German accounting system over the past quarter of a century.

Financial accounting in general took on new significance following the introduction of the New Economic System *(Neues Ökonomisches System)* in 1963 which (1) replaced the Party leadership's policy of extensive economic growth with one of intensive growth and (2) replaced the highly centralized, bureaucratic planning system with a more democratic and decentralized one.[12] Intensive growth required, above all, a new emphasis on the importance of quality of production as well as quantity. Efficiency in the use of resources became the focal point of enterprise management, and scientific management techniques became the primary means of achieving efficiency.[13]

Indicators of efficiency, particularly cost savings, became significant measures of performance, thereby increasing the importance of accounting measures expressed in terms of money. Perhaps the single most important indicator in this respect today in the GDR is enterprise profit. This is true because, in tandem with the centralized pricing system, the financial accounting system (which encompasses the flow of costs through production) allows a supernormal profit only if workers achieve a greater efficiency than the standard costs incorporated in unit prices. Indeed, a normal profit can be realized only if standard efficiency is achieved. A central state department (Office for Wages) determines wage levels for different categories of work. Workers cannot, therefore, increase their income by changing employer or geographical location. They can, however, increase their income through efficient work, as prescribed percentages of supernormal profit are allocated to the workers' bonuses fund and the enterprise performance fund, the two funds that directly benefit workers. In this respect, the design of the financial accounting system encourages citizen behavior that accords with the aims of intensive growth. The system also helps the banks in their mandated requirement to evaluate enterprises under the New Economic System by providing an important measure of enterprise performance for that purpose, primarily in the form of profitability measures.

As is characteristic of socialist systems, the uniform system of accounting and statistics serves both macro and micro needs, that is, data reported by individual enterprises are aggregated at industry and national levels for national statistical purposes. Because of the macro demands placed on the accounting function and the considerable amount of summarization which occurs, the uniformity of the system is strictly enforced.

Finally, the extent to which the system reflects and aids German management skills should be apparent. Not only does it provide accounting data in the traditional sense of a statement of results and balance sheet, but it operates in concert with the country's pricing and wage systems to promote work behavior consistent with the policy of intensive growth. In short, the accounting function in the GDR is exceptionally well organized and designed to complement the economic control functions of the administrative, planning, and banking systems. In this respect it has no doubt contributed to the economic success of the GDR.

Notes

[1] John M. Starrels, "The Soviet Bloc's Best Economy: East Germany Moves West," *The New York Times* (6 September 1987), F3.

[2] "A Comecon Exemplar," *The Economist* (6–12 July 1985), 64.

[3] Starrels (1987), F3.

[4] *The Economist*, 64.

[5] The classic study of the influence of culture on accounting is DR Scott's *The Cultural Significance of Accounts* (New York: H. Holt and Company, 1931).

[6] Karl Oettle, "Volkseigene Betriebe." In: *Handwörterbuch der Wirtschaftswissenschaft*, Willi Albers et al., eds., Vol. 8 (Stuttgart: Fisher Verlag, 1980), 357.

[7] In East Germany, the chief accountant's formal title is Director for Accounting and Financial Control. For details of the chief accountant's duties and management-level status, refer to Berry (1982).

[8] Kilger (1976), 454.

[9] More specifically to a 'statistical two-cycle system.' There are two categories of two-cycle accounting systems: 'statistical two-cycle systems' and 'transfer account two-cycle systems.' Transfer account two-cycle systems are characterized by a full-fledged double-entry cost accounting cycle that completely duplicates the cost and revenue accounts of the financial cycle. Because of the additional work required to maintain the large number of accounts necessary in a transfer account system and because of the greater adaptability of the statistical system to changing management information requirements, the statistical two-cycle system has generally been considered superior to the transfer account system in German theory and practice (Hanns-Martin W. Schoenfeld, *Cost Terminology and Cost Theory: A Study of Its Development and Present State in Central Europe*, Urbana, IL: University of Illinois Center of International Education and Research in Accounting, 1974, 30–32.) It is traditional German practice to use spread sheets (*Betriebsabrechnungsbogen* or BABs) to assign costs classified by nature *(Kostenarten)* to cost objects *(Kostenträger)*. In conversation with one of the authors, Professor Alicja Jaruga, Head of the Department of Accountancy, University of Lodz, Poland, suggested that this practice is a holdover from the days when German businesses used cameral accounting *(Kameralistik)* rather than double-entry. For a BAB illustration, see Schoenfeld, 34.

[10] Although the structure of the East German uniform chart of accounts continues to follow the production principle, the structure of the chart of accounts recommended by the West German Federation of Industries in 1971 follows the closing principle *(Abschlussgliederungsprinzip)*. According to this principle, balance sheet accounts appear first followed by revenue and expense accounts and closing accounts. Account class 9 is reserved for cost control. See Kilger, 475.

[11] Autorenkollektiv, *Buchführung: Grundkurs für Ökonomische Ausbildungseinrichtungen*, 3rd ed. (Berlin: Verlag Die Wirschaft, 1981), 13.

[12] C. Bradley Scharf, *Politics and Change in East Germany: An Evaluation of Socialist Democracy* (Boulder, CO: Westview Press, 1984), 66. Scharf's chapter on economic policy in the GDR (pp. 64–94) describes the reallocation of decisional authority from the enterprise level to the combine level. The chapter also contains several statistical tables that corroborate the success of the East German economy *vis-à-vis* their East European neighbors (pp. 82–83). At the same time, Scharf points out a number of structural problems in the East German system which impede a full unfolding of the economy there (lack of scarcity pricing, plan inaccuracies, neglect of economic infrastructures, among others).

[13] Both the problems that led to economic reform in East Germany in the 1960s and the nature of those reforms, including the new interest in Western scientific management techniques, are described in some detail in Günter Lauterbach, *Zur Theorie der sozialistischen Wirtschaftsführung in der DDR* (Cologne: Verlag Wissenschaft und Politik, 1973).

Appendix 1. Statement of Results

Form 161
in M1000s

Line		AC	21.23	Plan for the year 01	EDP ref.	Plan fulfillment 02	EDP ref.	Fulfillment in % 03
1 Depreciation—fixed assets in use		3000			24.30		31.37	
2 Depreciation not included in cost of product–retired fixed assets		3002	630		38.44		45.51	
3 Writeoffs of residual values		304			52.58		59.65	
4 Rents, lease payments, and use fees		306			24.30		31.37	
5 Other consumption of fixed assets		3001, 3003 3005	631		38.44		45.51	
6 Total consumption of fixed assets (lines 1-5)		30			52.58		59.65	
7 Raw materials		310–314			24.30		31.37	
8 Energy and fuels		3150–3154 3156, 3157	632		38.44		45.51	
9 Other materials		3155, 3158 316, 317			52.58		59.65	
10 Materials revaluations	gain (+) loss (−)	318			24.30		31.37	
11 Materials price variances	gain (+) loss (−)	319	633		38.44		45.51	
12 Total materials (lines 7+8+9−10−11)		31			52.58		59.65	
13 Subcontract work		3200–3204			24.30		31.37	
14 Other cooperative services		3205–3209	634		38.44		45.51	
15 Repairs		321			52.58		59.65	

Line		AC	21.23	Plan for the year 01	EDP ref.	Plan fulfillment 02	EDP ref.	Fulfillment in % 03
16	Shipping and warehousing	322			24.30		31.37	
17	Other productive services	323–326 329	635		38.44		45.51	
18	Consumption of productive services (lines 13-17)	32			52.58		59.65	
19	Cost of merchandise consumed	33			24.30		31.37	
20	Contractual wages and piecework	340–342	636		38.44		45.51	
21	Overtime	344			52.58		59.65	
22	Bonuses and other remuneration	347/348			24.30		31.37	
23	Other wages and compensation	343, 345, 346	637		38.44		45.51	
24	Wages, remuneration, bonuses (lines 20-23)	34			52.58		59.65	
25	Reimbursements and supplementary compensation	35			24.30		31.37	
26	Fund allocations	36	638		38.44		45.51	
27	Consumption of nonproductive services	37			52.58		59.65	
28	Planned interest	3820			24.30		31.37	
29	Interest penalties	3825	639		38.44		45.51	
30	Late charges	385			52.58		59.65	

Line		AC	21.23	Plan for the year 01	EDP ref.	Plan fulfillment 02	EDP ref.	Fulfillment in % 03
31	Employer contributions to social security insurance	386			24.30		31.37	
32	Employer contributions to voluntary additional pension insurance	387	640		38.44		45.51	
33	Employer contributions to social funds	388			52.58		59.65	
34	Other employer contributions, interest, and assessments	380, 391, 393			24.30		31.37	
35	Employer contributions, interest, and other assessments (lines 28-34)	38	641		38.44		45.51	
36	Additional costs associated with capital investments projects and cost of unsatisfactory scientific–technological work	3300–3302 338			52.58		59.65	
37	Contractual penalties and damages paid	3910/3911			24.30		31.37	
38	Fines and demurrage charges	3912	642		38.44		45.51	
39	Sanctions for violation of state norms, quotas and price restrictions	3918			52.58		59.65	
40	Devaluations	393			24.30		31.37	
41	Negative inventory differences	394	643		38.44		45.51	
42	Transport losses	3950			52.58		59.65	
43	Additional other cost categories	3883/3903/3913/ 3915/392/399			24.30		31.37	
44	Other cost categories (lines 36-43)	39	644		38.44		45.51	
45	Total costs by category	Class 3			52.58		59.65	

Line		AC	21.23	Plan for the year 01	EDP ref.	Plan fulfillment 02	EDP ref.	Fulfillment in % 03
46	Costs not included in cost of product (lines 130-133)	see Guidelines			24.30		31.37	
47	Additional product costs	see Guidelines	645		38.44		45.51	
48	Changes in inventory levels: Work in process increase + decrease −	—			24.30		31.37	
49	Changes in inventory levels: Finished goods increase + decrease −	—			24.30		31.37	
50	Costs and expenses of the accounting period (lines 45−46+47+48+49)	see Guidelines	646		38.44		45.51	
51	Sales at enterprise prices: industry output	600−601 +−608			52.58		59.65	
52	Sales at enterprise prices: construction	610+611 +−618			24.30		31.37	
53	Sales at enterprise prices: agricultural output	620 +−628	647		38.44		45.51	
54	Sales at enterprise prices: transport, postal services and telecommunications	630+631 +−638			52.58		59.65	
55	Sales at enterprise prices: plant construction	660 + 661 +−668			24.30		31.37	
56	Sales at enterprise prices: other production output		648		38.44		45.51	
57	Sales at enterprise prices: total (lines 51-56)	—			52.58		59.65	
58	Markups, surcharges, etc., on sales	603, 613, 623, 633, 663			24.30		31.37	
59	Discounts, rebates, etc., on sales	607, 617, 6270, 637, 667	649		38.44		45.51	
60	Sales of by-products at enterprise prices	see Guidelines			52.58		59.65	

Line 50 may also be found as follows: line 62+64+72+73+74+83.

Line		AC	21.23	Plan for the year 01	EDP ref.	Plan fulfillment 02	EDP ref.	Fulfillment in % 03
61	Revenues from food services and subsidies from the fund for cultural and social development	6513+6533			24.30		31.37	
62	Food services procurements	6553	650		38.44		45.51	
63	Revenues from merchandising activities	650, 6510, 6512, 6520 and from 657			52.58		59.65	
64	Cost of merchandise (wholesale and retail)	6550, 6552, 654			24.30		31.37	
65	Revenues from sales of materials and other items	see Guidelines	651		38.44		45.51	
66	Markups, surcharges, etc., included in sales of planned production	6032+6034			52.58		59.65	
67	Discounts, rebates, etc., not included in sales of planned production	6071, 8072, 98033 and from 99039			24.30		31.37	
68	Sales of planned production at enterprise prices (lines 57+60+63−64+66−67)	—	652		38.44		45.51	
69	Results of installment sales (+) (−)	6693			52.58		59.65	
70	Export revenues	640, 643, 647			24.30		31.37	
71	Revenues from services and from cultural and social outputs	see Guidelines	653		38.44		45.51	
72	Total cost of planned production sold (cf. line 68)	see Guidelines			52.58		59.65	
73	Other costs not included in line 72 (cf. line 65)	see Guidelines			24.30		31.37	
74	Costs of nonproductive outputs (cf. line 71)	see Guidelines	654		38.44		45.51	
75	Receipts from combine assessments	690			52.58		59.65	

Line		AC	21.23	Plan for the year 01	EDP ref.	Plan fulfillment 02	EDP ref.	Fulfillment in % 03
76	Other combine receipts	691			24.30		31.37	
77	Combine costs	694	655		38.44		45.51	
78	Contractual penalties and damages received	6810			52.58		59.65	
79	Fines and demurrage charges received	6812	656		24.30		31.37	
80	Interest and late charges received	685			38.44		45.51	
81	Other revenues not associated with output	680–685	656		52.58		59.65	
82	Total revenues not associated with output (lines 78-81)	680–685			24.30		31.37	
83	Socially unnecessary expenses	6894	657		38.44		45.51	
84	Socially unnecessary expenses—prior year	see Guidelines		—	52.58	( )	59.65	—
85	Additional receipts not associated with output	6895		—	24.30		31.37	—
86	Cost of export merchandise sold and other export expenses	—	658		38.44		45.51	
87	Results — output sold (lines 57+58−59+60+63−64+65+69−72−73) (+) (−)	9800			52.58		59.65	
88	Results — nonproductive services (+) (−)	9803			24.30		31.37	
89	Results — joint ventures	9804	659		38.44		45.51	
90	Results — combine assessments (lines 75+76−77)	9805			52.58		59.65	
91	Results from activities not associated with production (lines 82−83+85) (+) (−)	9807			24.30		31.37	
92	State-imposed surcharges	9808	660		38.44		45.51	
93	Results of domestic operations and other sales activities (lines 87-92) (+) (−)	980			52.58		59.65	

Line			AC	21.23	Plan for the year 01	EDP ref.	Plan fulfillment 02	EDP ref.	Fulfillment in % 03
94	Results of domestic operations — prior year	(+) (−)	see Guidelines	661		24.30	( )	31.37	
95	Results of export operations (lines 70–86)	(+) (−)	984			38.44		45.51	
96	Results of export enterprises	(+) (−) (+)	—			52.58		59.65	
97	Enterprise results (line 93+95+96)	(−)	98			24.30		31.37	
98	Production fund tax		9901	662		38.44		45.51	
99	Nonproduct-related profits to be remitted to superior units		9902, 9903 9904	—		52.58		59.65	—
100	[a]					24.30		31.37	
101	Profit reductions to be offset against net profit tax		see Guidelines	663	—	38.44		45.51	—
102	Allocation of results—export enterprises		—			52.58		59.65	
103	Export subsidies		—			24.30		31.37	
104	Net profit (line 97−98−99+101−102+103)	Loss (−)	—	664		38.44		45.51	
105	Net profit remittance to combine		see Guidelines			52.58		59.65	
106	Includes: remittances from proprietary financial funds		see Guidelines		—	24.30	( )	31.37	—
107	Total cost of enterprise support services (exclusive of food services)		see Guidelines	665		38.44		45.51	
108	Includes: consumption of fixed assets		from AC 30			52.58		59.65	
109	Includes: materials consumption		from AC 31			24.30		31.37	
110	Includes: consumption of productive services		from AC 32	666		38.44		45.51	
111	Includes: wages, compensation, and bonuses		from AC 34			52.50		59.65	

Line		AC	2.1.23	Plan for the year 01	EDP ref.	Plan fulfillment 02	EDP ref.	Fulfillment in % 03
112	Sales at industry prices: industrial output	600+601+6081+6082+6089−6084−6086−6087	667		24.30		31.37	
113	Sales at industry prices: construction	cf. AC 61	667		38.44		45.51	
114	Sales at industry prices: agricultural output	cf. AC 62	667		52.58		59.65	
115	Sales at industry prices: transport, postal services, and telecommunications	cf. AC 63	668		24.30		31.37	
116	Sales at industry prices: plant construction	cf. AC 66	668		38.44		45.51	
117	other productive outputs		668		52.58		59.65	
118	total lines 112-117)	see Guidelines	669		24.30		31.37	
119	Price subsidies for sales per line 118	6085 6185	669		38.44		45.51	
120	Product taxes for sales per line 118	6080 6180	669		52.58		59.65	
121	Extra profit realized	—	670		24.30		31.37	
122	includes e.p. on exports to socialist countries	—	670	( )	38.44	( )	45.51	
123	includes e.p. on exports to nonsocialist countries	—	670	( )	52.58	( )	59.65	
124	Profit add-ons for high-grade consumer goods	—	671		24.30		31.37	
125	Surcharges for goods marked "Q," "SL," or "Good Design"	—	671		38.44		45.51	
126	Profit add-ons for luxury goods	—	671		52.58		59.65	
127	Profit add-ons for replacement parts	—	672		24.30		31.37	
128	Other surcharges and profit add-ons for capital goods	—	672		38.44		45.51	
129	[a]	—	672		52.58		59.65	

Line		AC	21.23	Plan for the year 01	EDP ref.	Plan fulfillment 02	EDP ref.	Fulfillment in % 03
130	Costs not included in cost of sales (line 46): internal consumption of output		—		24.30		31.37	
131	Costs not included in cost of sales (line 46): nonproduct materials consumption	—	673		38.44		45.51	
132	Costs not included in cost of sales (line 46): duplicate costs	—			52.58		59.65	
133	Costs not included in cost of sales (line 46): other costs	—			24.30		31.37	
134	[a]		674		38.44		45.51	
135	[a]				52.58		59.65	
136	Total costs of planned production sold (excluding plant construction)	—			24.30		31.37	
137	Planned costs of production sold	—	675		38.44	—	45.51	—
138	Sales of planned production (excluding plant construction)	—			52.58		59.65	
139	Total costs of plant construction sold	—			24.30		31.37	
140	Planned costs of plant construction sold	—	676		38.44	—	45.51	—
141	Sales of planned production-plant construction	—			52.58		59.65	
142	Enterprise results (adjusted) (line 97–99+101) (+)(−)	—		—				
143	Results of domestic operations and other sales activities (adjusted) (line 98–99+101) (+)(−)	—		—				

[a] To be completed by special directive of the Bureau of Statistics only.

Source: Ministerrat der Deutschen Demokratishen Republik, *Formblatt 161: Ergebnisrechnung zum 31. 12. 1986 fur die Wirtschaftsbereiche Industrie, Bau-, Verkehrs-, Post- und Fernmeldewesen* (Berlin: Staatliche Zentralverwaltung fur Statistik, 1986).

Appendix 2. Balance Sheet 31 December 1986

Form 069
in M1000s

Debits					Credits				
Pos. No.	Item	AC	Balance on 1.1.1986	Balance on 31.12.1988	Pos. No.	Item	AC	Balance on 1.1.1986	Balance on 31.12.1986
	0		B	C		0		D	E
1.23			—24-31—	—32-39—	40.42			—43-50—	—51-58—
011	Gross value of industry-typical fixed assets	—			510	Fixed assets fund	90		
012	Gross value of other fixed assets	—			511	Operating fund	91		
021	Accumulated depreciation—industry-typical fixed assets	—			512	Fund for science and technology	933		
022	Accumulated depreciation—other fixed assets	—			513	Advertising fund	934		
030	Net worth of fixed assets (011+012−021−022)	—			514	Reserve fund	935		
040	Land use payments	092			515	Fund for operative use of merchandise	937		
050	Geological exploration costs	093			516	Capital projects fund	94		
100	Purchases in transit	10			517	Workers' bonuses fund, fund for cultural and social development	95		
111	Materials inventory	11			518	Enterprise performance fund	960		
112	Special-purpose materials	12			519	Repairs fund	961		
113	Work in process	130-134			520	Discretionary fund	964		

Form 069
in M1000s

Debits					Credits				
Pos. No.	Item	AC	Balance on 1.1.1986	Balance on 31.12.1988	Pos. No.	Item	AC	Balance on 1.1.1986	Balance on 31.12.1986
	0		B	C		0		D	E
1.23			—24-31—	—32-39—	40.42			—43-50—	—51-58—
114	Scientific–technological projects in process	135			521	Research and development fund	966		
115	Finished goods	150-154			522	Young Socialists' fund	9692		
116	Other tangible current assets	13-18			523	Other special-purpose fund	96		
120	Capital investments projects in process	19			524	Fund for scientific–technological projects	976		
130	Currency	20			525	Other funds for debit adjustments	97		
141	Bank account for centralized profit	2144			530	Credit adjustments	87		
142	Bank account for repairs fund	2161			541	Summary account for centralized profit	44		
143	Bank account for capital investment fund	2194			542	Other adjustments	Class 4		
144	Bank account for workers' bonuses fund	21940			551	Bank credits for fixed assets	8100 8101		
145	Bank account for fund for cultural and social development	21952			552	Bank credits for planned inventories	8110		
146	Other bank and postal accounts	21			553	Bank credits for receivables	8111		
151	Long-term receivables	22			554	Bank credits for pre-financing cash	8120		
152	Trade accounts receivable	23			555	Other bank credits	81		
153	Receivables from subordinate enterprises	25			561	Long-term payables	82		
154	Receivables from combine or superior administrative unit	25			562	Trade accounts payable	83		

Form 069
in M1000s

Debits					Credits				
Pos. No.	Item	AC	Balance on 1.1.1986	Balance on 31.12.1988	Pos. No.	Item	AC	Balance on 1.1.1986	Balance on 31.12.1986
	0		B	C		0		D	E
1.23			—24-31—	—32-39—	40.42			—43-50—	—51-58—
155	Receivables from the State budget	261			563	Payables to combine or superior administrative unit	84		
156	Other receivables	26			564	Payable to combine or enterprises	85		
201	Scientific–technological projects in progress (adjustments)	2760			565	Payables to the state budget	861		
202	Completed scientific technological projects not yet in production	2761			566	Other payables	86		
203	Retired R & D fixed assets held for sale	2762			600	Subtotal	—		
204	Other adjustments	27			610	Results of operations—profit	98	—	
211	Bank credit summaries	412			620	Results of operations of export enterprises		—	
212	Other summaries	Class 4			630	Fund and loss subvention	9993 9990	—	
300	Subtotal	—			640	Export subsidies	9994	—	
310	Results of operations—loss	98	—		650	Production fund tax exemption	9997	—	
320	Profit allocation	990	—		660				
330	Profit allocation—export enterprises		—		670				
341	Net profit tax	9922	—		680				
342	Other net profit allocation	99	—		690				
400	Total (items 300+310−342)				800	Total (items 600+610−650)			

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Impact of Floating Exchange Rates on Company Risk Management Practices and Reported Income: The Australian Experience

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Key words: Managing foreign exchange risk; Impact of currency float; Uniformity of risk

Abstract: *This study addressed two research questions: first, the effect of floating of the Australian dollar on an individual company's exchange risk exposure and, second, the extent of company response in managing foreign exchange risk. The findings indicated that floating of the dollar resulted in increased risk exposures, although the impacts were not uniform for all companies. Likewise, the impact on foreign exchange risk management practices was not necessarily to the same extent for all companies. Overall, there is evidence that since the floating of the dollar an increasing number of companies are giving more serious attention to the exchange risk management function.*

Compared with many countries which have already moved to a freely floating exchange rate system, Australia only recently abandoned its managed exchange rate system, in December 1983. As a late floater, Australia is beginning to feel the impact of a fluctuating Australian dollar, particularly its effect on reported corporate income. Almost half a billion dollars in foreign exchange losses were written off by Australian companies in the first half of 1985 and further write-offs of A$1.7 billion have been forecast.[1] The declining Australian dollar and its impact on reported income, therefore, have generated considerable interest in foreign exchange risk management and foreign exchange accounting among accountants and finance managers in Australia.

Under the previously managed exchange rate system, in which exchange rates were allowed to fluctuate within acceptable limits, Australian companies' concern over exchange risks naturally was minor.[2] However, faced with the prospect of substantial exchange losses under a freely floating exchange rate system, Australian companies should be developing appropriate policies and strategies

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for minimising or eliminating their exposure to such risks. Managing foreign risk exposure thus should be incorporated in the decision-making process, not as an element that is given but as a variable that must be controlled.[3] This is important to minimize the impact on reported income, which has been a source of major concern for Australian companies.

Statement of Purpose

The purpose of this study was to examine the impact of changing exchange rates on Australian companies engaged in international activities. More specifically, this study investigated the effect of floating of the Australian dollar on foreign exchange risk management practices in terms of four major company variables: company activity, sales turnover, extent of international business involvement and ultimate ownership. This study should provide useful input to those involved in managing foreign exchange risk exposure, as well as accounting standard setters, for formulation of strategy and policy decisions.

Background

The volatility of exchange rates exposes a company engaged in international operations to the potential risk of losses, and subjects the company to considerable fluctuations in reported income. To protect against these policies, management should be concerned with the measurement and evaluation of foreign exchange risk exposures. Normative decision models on foreign exchange risk management suggest that this is completely unwarranted. Dufey and Srinivasulu,[4] in arguing the case for corporate management of foreign exchange risk, summarized the reasoning which underpins these models as follows:

"Foreign exchange risk does not exist; even if it exists, it need not be hedged; even if it is to be hedged, corporations need not hedge it."

The results of various empirical studies,[5] however, were inconsistent with this hypothesis because the validity of these models rests on certain restrictive assumptions.

The purchasing power parity (PPP) theory states that "under a freely floating exchange rate regime, a relative change in purchasing power parity for any pair of currencies, calculated as a price ratio of trade and goods, would tend to be approximated by a change in the equilibrium rate of exchange between these two currencies."[6] This offsetting tendency between changes in price levels and exchange rates indicates that exchange risk exposure does not exist. Empirical evidence, however, has shown that deviations from PPP can be substantial the shorter the time period is, suggesting that adjustments between changes in prices and exchange rates are not instantaneous.[7]

The Capital Asset Pricing Model, when applied to a multicurrency environment, recognizes that exchange risk exists but then it presumes that there is "no difference to the valuation of either the total market portfolio or the individual firm whether exchange risks are passed through to the capital market as part of the risk of the firm's shares, or transferred directly to the market through forward exchange or foreign currency debt contracts."[8] In practice, however, comparing the firm and individual investor, the firm is more advantageously placed to manage exchange risks, especially when transaction costs and taxation exist, resulting in lower exchange risk management costs for the firm.[9]

The Modigliani-Miller (MM) theory has also been invoked to justify the argument that exchange risk management at the corporate level is irrelevant.[10] The same reasoning as discussed previously applies: what the firm does, an investor can do.[11] However, in the presence of market imperfections, the situation is one in which what an investor can do, a firm can do better. Dufey and Srinivasulu[12] cited entry barriers and information gaps as examples of obstacles to hedging at the individual investor level.

Logue and Oldfield[13] used the market efficiency hypothesis argument to support the case that corporate management of exchange risk is superfluous. If foreign exchange markets are efficient, all relevant information would be impounded in the share prices, and variability of earnings introduced by rate changes should not affect share prices. However, as Jacque[14] noted:

"Such clearsightedness on the part of the market would require extensive and systematic disclosure by multinational corporations of their foreign subsidiaries' transaction, translation and economic exposures. This practice is clearly not yet accepted because multinational corporations generally disclose only consolidated financial statements."

Based on these reviews, there seems to be little doubt that managing foreign exchange risk should be an appropriate concern of corporate management. Dufey and Srinivasulu[15] stated the case succinctly as follows:

"In an idealized world, without information and transaction costs, explicit or implicit contract periods, and other obstacles to instantaneous price adjustments, deviations from various equilibrium conditions such as purchasing power parity, the law of one price, and both the domestic and international Fisher effect would not occur; neither would firms be exposed to exchange risk. However, because real-world imperfections in markets for real goods and services as well as financial assets do exist, firms can be subject to exchange risk.

Corporate Management of Foreign Exchange Risks

Corporate attention devoted to foreign exchange risk management depends on the extent of individual company exposures to exchange risks. Traditionally, three types of exposure risks can be identified:

Translation (Accounting) Exposure

This is concerned with risk of translation losses arising from a fall in value of the foreign currency in the situation where exposed assets exceed exposed liabilities. The reasons for corporate concern with this risk are based on a desire to show a steady earnings per share figure and the fear that wild fluctuations in earnings per share introduced by translation losses can adversely affect share prices.[16]

Transaction Exposure

This is concerned with risk of exchange losses associated with changes in future cash flows arising from contractual receipts or obligations which are denominated in the foreign currency. Transaction exposure risk involves actual or potential cash flow changes, unlike translation exposure risks which do not involve any cash flow.

Economic Exposure

This is concerned with risk of exchange losses associated with changes in future cash flows arising from exchange rate changes which can affect future sales, prices or costs.

The process of managing foreign exchange risk involves developing a well-defined objective and policy, as well as designing and implementing an appropriate hedging strategy. In earlier studies,[17] several dimensions of risk management essential for implementing hedging strategy have been identified: organizational structure of risk management, objectives of risk management, exchange rate forecasting, selection, and implementation of hedging strategies.

In examining the organizational structure of risk management, Evans et al. and Mathur noted that the trend had been toward centralization of exchange risk management decisions.

In the case of risk management objectives, US studies[18] found a shift in emphasis, from the reported income figure to protection of cash flows and asset values. Drury and Errunza reported, based on a Canadian study, that the primary objectives of foreign exchange risk management were protection against various impacts of translation, transaction and economic exposures.

Exchange rate forecasting presents the most difficult aspect of exchange risk management, especially under a floating exchange rate system, for two reasons: first, volatile fluctuations in the exchange rates are extremely likely under such a system and, second, exchange rate variations may occur without the existence of fundamental disequilibrium in the balance of payments.[19]

In the Evans study, it was reported that US companies were moderately involved in forecasting of exchange rates and, frequently, these companies based their forecasts on point estimates of the spot rate. Thus a rather sophisticated forecasting technique was used.

Following this diagnosis of the exchange risk environment discussed above, corporate management would then identify and select appropriate defensive hedging strategies. In making a hedging decision, corporate management would be considering the trade-off between the degree of risk they are prepared to accept and the cost of protecting against exposure to such a risk. The findings in previous studies revealed that forward contracts were the most frequently used hedging technique. Nolte[20] found that 96 percent of the firms used the forward contract hedging technique. Evans reached a similar conclusion.

Research Hypothesis

To study the impact of floating of the Australian dollar on foreign exchange risk and the responses by Australian companies in managing such risk exposure, several hypotheses were developed and tested. To do this, the following company variables were identified based on a review of the literature:

(1) ultimate ownership;
(2) principal activity;
(3) sales turnover; and
(4) extent of international business involvement.

Ultimate ownership referred to whether companies were Australian-owned or foreign-owned. Ownership status could have an impact because earlier research reported that parent companies generally had greater control over risk exposure decisions. This would mean that foreign-owned companies, by drawing on the expertise of parent companies, would be able to better cope with risk management problems.

Principal activity was indicated by the line of business with greatest turnover. Abdel-Malek[21] classified activities into manufacturing and trading only. In this study, four categories were identified: primary, manufacturing, trading and others. Primary activity, used in the sense of a polar extreme of secondary activity, referred largely to mining, where companies were involved in heavy borrowings from outside Australia.

Turnover was used as a proxy for company size and this was classified into three categories: >100 million, A$10 million-$100 million and <A$10 million. This variable was selected because Young and Helliwell[22] found the response by larger firms to risk exposure to be different from that of the smaller firms, although Abdel-Malek reported no significant association between size and company behaviour toward risk exposure.

International involvement was expressed either as a percentage of imports or exports over sales or in terms of exports and sales from subsidiary operations as a percentage of group sales. Eastman[23] found that the extent of international business involvement had an impact on a company's exchange risk decision, but Abdel-Malek could find no such relationship.

One possible explanation for the mixed findings in earlier research could have been the failure to consider the interaction effects of these variables. Risk exposure could have a more significant impact on large companies with substantial international involvement than on smaller companies which were less exposed to foreign exchange risk. Thus, this study also investigated possible interactions in addition to the main effects.

Based on the foregoing, the following null hypotheses were formally stated.

For main effects (H_{01}-H_{04}):
There are no significant differences in main effects of the extent of exchange risk exposure experienced across companies after floating of the Australian dollar.
For interaction effects (H_{05}-H_{10}):

There are no significant differences in interaction effects of the extent of exchange risk exposure experienced across companies after floating of the Australian dollar.

The degree of company response in managing risk exposure was investigated next. Following the earlier discussion, these aspects of foreign exchange risk management were examined:

(1) extent of resources channelled to management of foreign exchange risks;
(2) organizational structure of foreign exchange risk management;
(3) company's objectives of exchange risk management;
(4) exchange rate forecasting; and
(5) hedging policy and strategy.

In this case, a broad category of null hypotheses was formulated to test whether floating of the Australian dollar would have the same impact on foreign exchange risk management practices across companies. Stated formally,

There are no significant differences in main effects on foreign exchange risk management practices across companies following floating of the Australian dollar.

In this way 20 (4 × 5) null hypotheses of no significant main effect were tested (H_{11a}-H_{11e} to (H_{14a}-H_{14e}).

Similarly, the following broad category of null hypotheses for interaction effects was formulated:

There are no significant differences in interaction effects on foreign exchange risk management practices across companies following floating of the Australian dollar.

In this way 30 (5 × 6) null hypotheses of no significant significant effects were tested (H_{15a}-H_{15e} to (H_{20a}-H_{20e}).

Method

Mail questionnaires were sent to 460 Australian companies involved in international business activities (imports, exports and foreign operations). The use of a survey permitted collection of data from a large number of firms and was considered an appropriate method for the purpose of this study. This was also consistent with previous studies in this area.[24] The questionnaires had been pilot-tested before mailing and were addressed to foreign exchange risk managers. Each respondent was also promised a copy of the summarized results.

The questionnaire was developed using a five-point Likert-type scale to record the scores. Altogether 132 usable replies from two mailings were received, giving a response rate of 31 percent. This was within the typical response rate of 20-40 percent for mail surveys.[25] Non-response bias was also tested and no discernible bias could be detected.

Table 1a. Classification by Ultimate Ownership

	No. of companies
Australian-owned	73 (55)
Foreign-owned	59 (45)
	132 (100)

Table 1b. Classification by Principal Activity

	No. of companies
Primary	9 (7)
Manufacturing	49 (37)
Trading	56 (42)
Others	18 (14)
	132 (100)

Table 1c. Classification by Turnover

	No. of companies
<$10 million	37 (28)
$10 million-$100 million	54 (41)
>$100 million	41 (31)
	132 (100)

Table 1d. Classification by International Involvement

	No. of companies
>50 percent	56 (42)
{50 percent	76 (58)
	132 (100)

Numbers in parenthesis are percentages.

Descriptive statistics relating to company variable classifications are presented in Tables 1a-1d. The hypotheses were tested using analysis of variance and χ^2 tests.

Results and Discussion

Impact of Floating of the Australian Dollar on Exposure Risk

Post-implementation of the floating exchange rate system scores on degree of exposure risk showed a perceived increase in risk. Table 2 presents the analysis. It

Table 2. Results of Main and Two-way Interaction Effects of ANOVA of the Impact of Floating of the Australian Dollar on Risk Exposure

	DF	MS	*F*
Ownership (O)	1	0.33	0.34
Activity (A)	3	1.19	1.22
Turnover (T)	2	4.29	4.81***
International business involvement (I)	1	3.63	3.93**
O × A	3	2.12	2.14*
O × T	2	4.65	4.78***
O × I	1	0.89	0.91
A × T	6	2.01	2.06*
A × I	3	0.29	0.29
T × I	2	2.28	2.36*
Error	108	0.98	

*$P<0.10$ **$P<0.05$ ***$P<0.01$

None of the second- or higher-order interactions were significant at the 0.10 level.

was noted that, besides the significant main effects for turnover and involvement, there were also significant interaction effects, indicating that risk exposure has greatly increased for all large companies with substantial international involvement and foreign-owned companies engaged in primary activity (mining). A plausible explanation for this might be the erratic fluctuation in the prices of natural resources over the period when this study was conducted. As would be expected, large companies with substantial international involvement were more exposed to exchange risks, and hence were most affected by the floating of the Australian dollar.

Extent of Resources Channelled into Risk Management

As shown in Table 3a, increased resources devoted to risk management were found among larger companies and those with significant international involvement. This was also evident from the interaction effect of turnover × involvement. Considering that it was the larger companies with substantial involvement that were most exposed to exchange risks, it was not surprising that these companies should also be more concerned about possible exchange losses and hence the need to channel additional resources into risk management activity. However, no significant difference was found between Australian and foreign-owned companies, both having reported increased use of resources for risk management.

Table 3a. Results of Main and Two-way Interaction Effects of ANOVA of the Extent of Resources Channelled into Risk Management

	DF	MS	*F*
Ownership (O)	1	1.23	1.17
Activity (A)	3	2.09	1.99
Turnover (T)	2	2.47	2.35*
International business involvement (I)	1	4.14	3.94**
O × A	3	1.14	1.09
O × T	2	1.77	1.69
O × I	1	2.13	2.03
A × T	6	1.55	1.48
A × I	3	1.22	1.16
T × I	2	3.20	3.05**
Error	108	1.05	

*$P<0.10$ **$P<0.05$

None of the second- or higher-order interactions were significant at the 0.10 level.

Table 3b. Results of Main and Two-way Interaction Effects of ANOVA of the Time Devoted to Foreign Exchange Risk Management

	DF	MS	*F*
Ownership (O)	1	3.03	3.94**
Activity (A)	3	0.89	1.16
Turnover (T)	2	1.38	1.79
International business involvement (I)	1	1.65	2.15
O × A	3	0.84	1.09
O × T	2	1.09	1.42
O × I	1	2.12	2.75*
A × T	6	0.46	0.60
A × I	3	0.43	0.57
T × I	2	0.93	1.21
Error	98	0.77	

*$P<0.10$ **$P<0.05$

None of the second- or higher-order interactions were significant at the 0.10 level.

Table 3b presents an analysis of the amount of time these companies had been devoting to risk management. As shown, Australian companies tended to spend more time than foreign-owned companies in managing risk exposure. Possibly, as a late floater, Australia would need more time for managing exchange risk to compensate for the lack of experience. Foreign companies, especially subsidiaries of US parent companies, were able to draw on the expertise and experience of their parent companies in dealing with risk management problems. Investigation of the significant interaction effect, ownership × involvement, provided further supporting evidence.

Organizational Structure of Foreign Exchange Risk Management

χ^2 tests were used to determine the type of companies that have an individual or committee responsible for managing exchange risk. The results in Table 4 show that companies with substantial involvement were more likely to have an organizational structure to deal with risk management.

Table 4. χ^2 Tests on Whether Companies Have an Individual or Committee Responsible for Risk Management

	Ownership	Activity	Involvement	Turnover
χ^2 value	<1	2.80	1.82	
Degree of freedom	1	3	1	2
Level of significance	n.s.	n.s.	$P<0.10$	n.s.

n.s., Not significant

Turning to the question of the organizational level at which risk management decisions were made, ANOVA tests did not reveal any significant differences across companies based on the four classification criteria. Generally, companies reported that exchange risk management decisions were made either at headquarters for those with subsidiary operations or by top-level management for single companies. This result suggested a greater degree of centralization of risk management decision-making than has been reported in earlier studies.[26] Possibly this was because of lack of experience by personnel at the decentralized level in view of the recency of floating the Australian dollar. It could also be a result of the severity of fluctuations in exchange rates, which would demand senior management attention.

Objectives of Exchange Risk Management

As there were no significant interaction effects, Table 5 summarized only the main effects of ANOVA for perceived importance of risk management objectives. Foreign-owned companies, because of their greater general exposures, tended to place more importance on two objectives: complete elimination of exposure to foreign exchange risk and elimination of all accounting foreign exchange losses. High-involvement companies similarly were more concerned with the long-term effects of risk exposure, and thus emphasized elimination or minimization of economic exposure. Trading companies, as importers or exporters, which largely accounted for the significant activity main effect, were more concerned with eliminating exchange account losses.

Interestingly, no significant effects were found for the objective of acceptance of foreign exchange risk in the short term if foreign exchange gains were anticipated, suggesting that companies generally were not engaged in foreign exchange speculation. The results also indicated that companies were more concerned with potential exchange losses than exchange gains.

Table 5. Summarized Results of ANOVA of Main Effects of Perceived Importance of Different Risk Management Objectives

Risk management objectives	Classification criteria				
	Ownership	Activity	Turnover	Involvement	Within
Complete elimination of exposure to foreign exchange risk					
df	1	3	2	1	
MS	6.75	3.35	0.60	0.18	97
F	3.91**	1.94	0.35	0.10	1.73
Elimination of all accounting foreign exchange losses					
df	1	3	2	1	95
MS	8.03	5.40	2.35	1.28	1.84
F	4.35**	2.93*	1.28	0.70	
Acceptance of foreign exchange risk in the short term if foreign exchange gains are anticipated					
df	1	3	2	1	93
MS	0.14	1.57	0.77	0.05	1.78
F	0.08	0.89	0.43	0.03	
Protection of the dollar value of foreign assets					
df	1	3	2	1	89
MS	1.55	2.63	9.01	15.23	2.37
F	0.65	1.11	3.79**	6.41***	
Protection of the economic value of future currency cash flows					
df	1	3	2	1	92
MS	0.74	4.09	1.93	13.86	2.12
F	0.35	1.93	0.91	6.54***	

*$P<0.10$ **$P<0.05$ ***$P<0.01$

Table 6. Analysis of Variance Summary: Ownership, Activity, Turnover and Involvement by Sources of Foreign Exchange Forecasting Information

	Ownership (O)	Activity (A)	Turnover (T)	Involvement (I)	(O×A)	(O×T)	(O×I)	(A×T)	(A×I)	(T×I)	Within
Financial publications											
df	1	3	2	1	3	2	1	6	3	2	84
MS	1.89	1.06	0.64	0.39	0.69	0.74	3.29	0.91	0.20	0.99	1.20
F	1.57	0.88	0.53	0.33	0.58	0.62	2.74*	0.76	0.16	0.83	
Intuitive approach											
df	1	3	2	1	3	2	1	6	3	2	84
MS	0.35	4.49	7.39	0.74	0.67	1.28	0.01	5.99	0.51	1.54	1.48
F	0.23	3.04**	4.99***	0.50	0.45	0.86	0.01	4.05***	0.34	1.04	
Using outside foreign exchange advisers											
df	1	3	2	1	3	2	1	6	3	2	75
MS	3.31	0.11	2.06	2.13	2.87	0.47	6.06	1.36	2.12	1.82	1.86
F	1.79	0.06	1.11	1.15	1.55	0.25	3.26**	0.73	1.14	0.98	
Banks											
df	1	3	2	1	3	2	1	6	3	2	83
MS	3.62	0.72	2.45	0.29	1.38	2.94	13.37	1.23	1.56	3.97	0.99
F	3.65**	0.73	2.48*	0.30	1.39	2.97**	13.49***	1.24	1.57	4.10**	
Formal mathematical models											
df	1	3	2	1	3	2	1	6	3	2	65
MS	1.07	0.56	0.29	0.36	0.45	0.41	0.68	0.19	0.76	0.03	0.56
F	1.94	0.38	0.53	0.65	0.82	0.74	1.24	0.35	1.39	0.06	
Based on reports from subsidiaries or branches											
df	1	3	2	1	3	2	1	6	3	2	67
MS	5.22	0.82	0.14	1.17	0.78	1.31	0.02	1.09	1.17	0.19	0.81
F	6.46***	1.102	0.17	1.44	0.96	1.62	0.03	1.34	1.45	0.23	

*$P<0.10$ **$P<0.05$ ***$P<0.01$

None of the second- or higher-order interactions were significant at the 0.10 level.

Methods of Foreign Exchange Forecasting

As shown in Table 6, banks were considered a most important source of forecasting information by large Australian companies, particularly those with substantial international business involvement. In the case of foreign-owned companies, reports from subsidiaries and branches were considered most important, as well as financial publications and the use of outside foreign exchange advisers. Smaller companies tended to rely on an intuitive approach, as was also the case of import/export companies. The results thus showed that various forecasting techniques were used by the sample companies.

Hedging Policy and Strategy

Table 7a presents the results of χ^2 tests for differences among companies concerning whether they have established plans or guidelines for implementation of hedging policies before and after floating of the Australian dollar. Australian companies before the dollar was floated tended not to establish any hedging guidelines vis-à-vis foreign-owned companies. However, after floating of the Australian dollar, more Australian companies recognized the importance of developing appropriate hedging policies.

Table 7a. χ^2 Tests on Whether Companies Have Established Plans or Guidelines for Implementation of Hedging Policies before and after Floating of the Dollar

	Classification criteria			
	Ownership	Activity	Involvement	Turnover
Before floating of Australian dollar	5.26** 1df	2.88 3df	0.66 1df	13.02*** 2df
After floating of Australian dollar	1.49 1df	1.30 3df	1.19 1df	6.51 2df

$^*P<0.10$ $^{**}P<0.05$

Moreover, larger companies were more likely to establish such policies than smaller companies, both before and after floating of the dollar. This may be because larger companies would have the resources and expertise to implement hedging policies. This should provide further evidence that company size is an important determinant in foreign exchange risk management.

The type of hedging techniques used were analyzed next. Table 7b presents the results. The two hedging techniques reported to be most widely used across all companies were forward exchange contracts and specifying currency of export and import transactions. This explained the absence of significant main effects for these techniques. The popularity of forward contracts was not surprising because it has been used as a technique for hedging not only foreign currency transactions

Table 7b. Summarized Results of ANOVA Main Effects of the Extent of Use of Various Hedging Techniques

Hedging techniques	Classification criteria				
	Ownership	Activity	Turnover	Involvement	Within
Borrowing/lending abroad					
df	1	3	2	1	45
MS	3.01	1.18	10.14	0.25	1.93
F	1.56	0.61	5.24***	0.13	
Lead/lag local currency receivables					
df	1	3	2	1	31
MS	1.72	5.71	0.34	0.01	1.19
F	1.44	4.79***	0.28	0.01	
Working capital adjustment					
df	1	3	2	1	32
MS	2.47	3.41	2.00	5.45	1.19
F	2.07	2.86**	1.68	4.57**	
Swaps					
df	1	3	2	1	34
MS	1.13	1.05	7.42	0.11	1.38
F	0.82	0.76	5.38***	0.08	
Transfer price adjustment					
df	1	3	2	1	26
MS	0.29	1.84	0.43	0.44	0.62
F	0.47	2.98**	0.70	0.71	
Forward Exchange contracts					
df	1	3	2	1	85
MS	1.63	2.19	2.66	0.13	1.79
F	0.91	1.22	1.49	0.07	
Specifying currency of export and import transactions					
df	1	3	2	1	50
MS	0.29	3.64	0.70	1.24	2.15
F	0.14	1.69	0.33	0.58	

*$P<0.10$ **$P<0.05$ ***$P<0.01$

but also balance-sheet exposures.[27] Companies that engaged in primary activities also relied to a great extent on the following hedging techniques: lead-lag local currency receivables, working capital adjustment and transfer price adjustment. Considering the large size and nature of operation of these companies, this result was as expected.

Summary and Conclusion

Several observations can be made based on the empirical findings of this study. First, the floating of the Australian dollar has increased an individual company's foreign exchange risk exposure and this has led to more resource being channelled into the foreign exchange risk management function; for example, an increased amount of time has been committed to risk management activity and there is increasing evidence of hedging guidelines being established only after floating of the dollar. Companies affected were generally larger companies with substantial involvement in international activities. Australian companies, however, felt the exposure to exchange risks more, and thus directed more resources to the risk management function than did foreign-owned companies, as the latter were able to draw on the experience and expertise of parent companies in dealing with risk management problems.

Second, there was a tendency for affected companies to centralize the exchange risk function, so that exchange risk management decisions were made either at parent-company level or at top-management level for single entities. It appeared that exchange risk decision-making should be an appropriate concern for higher management. This is particularly relevant in the present Australian situation, where exchange rates are volatile and experienced staff are in short supply.

Third, all companies exposed to exchange risk generally agreed that the risk management objective should be the elimination of exchange losses arising from transaction, translation and economic exposures.

Fourth, large Australian companies were more likely to rely on bank sources for foreign exchange forecasting information. Smaller companies tended to use an intuitive approach because of the high cost of buying outside services, such as from banks and foreign exchange advisory services. Foreign-owned companies, on the other hand, were able to use reports from subsidiaries, foreign exchange advisory services and financial publications. Very few companies, mainly foreign-owned, used mathematical forecasting models, suggesting a rather low degree of forecasting sophistication among Australian companies at present.

Finally, forward exchange contracts were by far the most widely used hedging technique across all companies. Larger companies, because of their size of operations, were also able to use such techniques as transfer pricing adjustments, swaps, and borrowing/lending abroad.

This study, therefore, has provided some evidence that the floating of the Australian dollar has resulted in increased risk exposures, although the impacts were not uniform for all companies. Likewise, the impact on foreign exchange risk management practices was not necessarily to the same extent for all companies. Overall, there is evidence that since floating of the Australian dollar an increasing number of companies are giving more serious attention to the exchange risk management function.

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An International Comparison of Conceptual Frameworks of Accounting

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Key words: Conceptual frameworks of accounting; International and national; Accounting objectives; Users of financial statements; Elements of financial statements; Decision usefulness of accounting information; True and fair view

Abstract: *The need for a conceptual framework of accounting theory to guide the development of accounting standards and practice on a consistent and theoretically sound basis has been recognized by many practitioners and academicians. A historical perspective of the efforts to find a unifying conceptual statement of accounting includes reviews of the significant efforts in the United States, the United Kingdom, Canada, and Australia, as well as the framework proposal of the International Accounting Standards Committee. The similarities and differences of each of the national efforts are presented and the general structure of the first international effort by the International Accounting Standards Committee is also examined. The interrelationships of the various conceptual framework efforts are described and the principal qualitative characteristics of financial statements such as understandability, relevance, reliability, and comparability are also discussed. The study recognizes the continuing strong need for a conceptual framework to guide the development of accounting standards and principles.*

The accounting profession internationally is aware of the need for a conceptual framework that would guide the development of accounting standards and practices on a consistent and theoretically sound basis. This paper presents a status report on these developments, primarily in the United States, United Kingdom, Canada, and Australia, as well as on the framework of the International Accounting Standards Committee (IASC), with a brief comparative analysis. A select bibliography may help readers interested in further research in this area.

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A Historical Perspective

Although a number of attempts of this nature have been made over the past several decades, the most significant progress has been achieved during the 1970s and 1980s. In the United States, the Trueblood Committee presented its report on *Objectives of Financial Statements* in 1973. To follow up this report, the Financial Accounting Standards Board (FASB) started its conceptual framework project. Because of the extent of resources committed to this project, its development was not hampered by other major issues before the Board, such as accounting for the effects of changing prices, foreign currency translation, and pension accounting. The project ultimately led to the issuance of six *Statements of Financial Accounting Concepts* between 1978 and 1985. Although not fully comprehensive, these Statements represent the most complete set of such concepts developed anywhere so far.

In the United Kingdom, *The Corporate Report* was published in 1975. Although far-reaching in nature, it was overshadowed by the report of the Sandiland's Committee on *Inflation Accounting* issued the same year. Several years later, the Accounting Standards Committee appointed Professor Richard Macve to study the problems involved in the development of a conceptual framework. In his report presented in 1981, Macve concluded, among other things, that an agreed conceptual framework was unlikely to be achieved and that accounting standards would have to be developed on an *ad hoc* basis. These developments seem to have effectively curtailed any further progress in the United Kingdom in this direction, even though some of the recommendations of the *Corporate Report* have been adopted by many companies.

The Canadian Institute of Chartered Accountants (CICA) issued a research study, *Corporate Reporting: Its Future Evolution*, in 1980. This represents the last serious attempt by the CICA towards the development of a conceptual framework. However, the newly organized Accounting Standards Authority of Canada (ASAC), which is not affiliated with the CICA, has revived interest in this direction and issued a statement, *Conceptual Framework for Financial Reporting*, in 1987. Further work in this area is expected in the near future both by the CICA and the ASAC.

The Australian Accountancy Research Foundation (AARF) published a research study by Kenley and Staubus, *Objectives and Concepts of Financial Statements*, in 1972. However, further developments in this area were severely hampered by the preoccupation of the Australian profession with the issues related to current cost accounting, and with the integration of the two professional bodies, the Institute of Chartered Accountants in Australia and the Australian Society of Accountants. The development of a conceptual framework has received renewed attention with the establishment of two new bodies in 1983: the Public Sector Accounting Standards Board (PSASB) and the Accounting Standards Review Board (ASRB). The PSASB has undertaken several projects related to a conceptual framework concerning public sector enterprises and has issued a statement in this regard. One of the first tasks of the ASRB was to sponsor or encourage the development of a conceptual framework for accounting standards in Australia. It has issued several discussion papers in this area and expects to issue final standards in the near future.

The need for a conceptual framework has also been recognized at the international level. The IASC has moved in this direction very quickly. After issuing an exposure draft in 1988, it published *Framework for the Preparation and Presentation of Financial Statements* in 1989. The framework has many similarities to its American counterpart and appears to be a more precise and refined version of the latter.

Developments in the United States

The Concepts Statements promulgated by the FASB specify the objectives of financial reporting and the qualitative characteristics of accounting information, define the elements of financial statements, and consider certain recognition and measurement issues. The FASB starts with a normative/deductive model but later seems to have adopted an inductive/positive approach. The framework achieves a great deal of technical precision and yet leaves a considerable amount of flexibility.

The objectives begin as broad statements, such as: to provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit, and similar decisions; and to provide information to help in assessing the amounts, timing, and uncertainty of prospective cash receipts. These statements are followed by more detailed and narrower objectives, such as: to provide information on the economic resources, claims to those resources, and the effects of transactions, events, and circumstances that change them. Subsequent objectives place primary importance on the information relating to the earnings as a measure of performance. It is obvious that the FASB is moving away from the old concept of the objective of accounting as being a fair presentation (or presentation of a true and fair view) of an entity's financial position and results, and towards the decision usefulness of information provided by accounting. This is further reinforced by the specification of qualitative characteristics of accounting information, the first of which is relevance, defined as the capacity of information to influence a decision. However, the second primary qualitative characteristic, reliability, has been described as comprising representational faithfulness, verifiability and neutrality, which seems to be an attempt to retain the idea of true and fair view. Definitions of the elements of financial statements focus on assets, which are probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events affecting the enterprise. Such a scheme seems to detract from the primacy given to earnings in the objectives. Furthermore, the definitions provide a considerable amount of flexibility, such as in describing revenues as arising from delivering or producing goods. As a result of such flexibility, the FASB has not been able to specify a complete accounting model in its conceptual framework and fails to take a definitive stand on significant measurement and communication issues. What has been done in this regard is merely a listing of various options based on current practice with no indication of the criteria to be used in their selection.

Developments in the United Kingdom

Although generally taking a normative/deductive approach, the *Corporate Report* seems to be guided more by pragmatism than technical precision. It makes an attempt to widen the scope of financial reporting considerably, and takes a definitive stand on many issues including a complete accounting model. It indicates a single fundamental objective: to communicate economic measurements and information concerning resources and performance of the reporting entity to those who have reasonable rights to such information. The concept of a reasonable right is an idea that is conspicuous by its absence in the FASB's thinking. The *Corporate Report* recognizes a number of user groups (equity investor, loan creditor, analyst-advisor, business contact, government, and the public), and a reasonable right is said to exist where the activities of an organization impinge or may impinge on the interests of a user group. User decisions and information needs, which have been discussed in some detail in the *Corporate Report*, reflect this concern. Among various other matters, the report refers to such things as voting decisions and social impact, and attempts to identify specific needs that may be fulfilled by corporate reports, with considerable emphasis on social/national aspects. A trend to the acceptance by business enterprises of multiple responsibilities is recognized, and it is stated that distributable profit is no longer the sole or premier indicator of performance.

The study discusses issues related to the communication of information, and seeks to expand the scope and content of corporate reports considerably. It recommends the addition of the following statements to those presented currently:

(1) A statement of value added, which would, at a minimum, include turnover, purchased materials and services, employees' wages and benefits, dividends and interest payable, tax payable, and amounts held for investment. This statement is believed to help evaluate performance and activity.

(2) An employment report, which would present details of the workforce in terms of such items as age, sex, functions, numbers employed, hours worked, reasons for any changes, costs, benefits, training, and safety and health information. This report is believed to help judge efficiency and productivity and show the role of the company as a life support system of its employees.

(3) A statement of money exchanges between the entity and governments at home and abroad. This report shows the interdependence between the enterprise and governments.

(4) A statement of transactions in foreign currency, to aid users in assessing overseas operations and investment.

(5) A statement of future prospects showing likely levels of profits, investments, and any other possible future developments. These projections may have probability levels attached and would serve as a basis of judging managerial performance.

(6) A statement of corporate objectives showing management philosophy or policy, and information on strategic targets in the areas of sales, added value,

profitability, investment and finance, dividends, employment, consumer issues, environmental issues, environmental matters, and other social issues. These should be quantified when possible.

The *Corporate Report* recommends further study into methods of social accounting, with emphasis on the development of verifiable measurement techniques. Disaggregated information is also recommended with respect to turnover, value added, profits and losses before tax, capital employed, and employees. Descriptive reports by chairmen and five-year summaries of income and expenditure, financial position, and flow of funds are also encouraged.

After discussing the current practice and alternative accounting models, the *Corporate Report* recommends, pending further study of other models, the use of current purchasing power accounting. Sandiland's report studied the various models, and recommended the use of current costs based on the value to the business. This recommendation was converted into a required practice but has now been made optional.

Developments in Canada

In Canada, the CICA Handbook has been effectively given the force of law by the Canada Business Corporations Act and by other practices and requirements of the various regulatory agencies. This Handbook is merely a compilation of the current accounting standards promulgated by the CICA. Thus, the CICA has found itself in a position of making *de facto* laws upon official adoption of a particular position. This quality of legal enforcement is quite useful in the setting of standards but carries with it a great deal of responsibility. It may be difficult for the CICA to endorse a conceptual framework that contains any degree of controversy without possibly affecting its status as a law setter. This may be one of the reasons why the CICA has shown such little interest in the development of a conceptual framework since the issuance of the research study, *Corporate Reporting: Its Future Evolution*, in 1980.

The objectives of the CICA study differ from those of the FASB, primarily in the matter of relative importance. The CICA places greater emphasis on accountability, minimization of uncertainty, recognition of cost/benefit factors, and reporting of economic reality. The first objective of the CICA study is to provide an accounting by management both to equity and debt investors, not only of management's exercise of its stewardship function but also of its success in achieving the goal of producing a satisfactory economic performance by the enterprise and maintaining it in a strong and healthy financial position. Another objective states that reports should disclose financial information that is relevant to the needs of users, and to provide it in such a form as to minimize uncertainty and enable the user to make his/her own assessment of the risks associated with the enterprise.

The CICA study identifies 15 user groups, together with 13 categories of their needs. Criteria are defined to judge whether the objectives and user needs are being met. Some of these criteria may be in conflict, such as: relevance, comparability, timeliness, clarity and completeness on the one hand, and objectivity, verifiability and precision on the other. But isomorphism, freedom from bias, rationality, non-arbitrariness, and uniformity are compatible with all other criteria. It is also stated that the most important criterion is relevance to user needs, that is, the information should be useful to users in their decision making. Several constraints (substance over from, materiality, cost/benefit effectiveness, flexibility, data availability, consistency, and conservatism) are also recognized.

The study does not attempt to define elements of financial statements on the ground that it would be far too difficult a task. It recommends several alternative measurements of the same items, though none of them might be considered to represent the economic reality in any absolute sense.

The CICA study seems to move away from the concept of true and fair view and toward decision usefulness but not to the same extent as the FASB. It also seems to move toward social accounting but again not to the same extent as the *Corporate Report* of the United Kingdom.

The ASAC relies heavily on the FASB's work in the development of its *Conceptual Framework for Financial Reporting*. However, several substantive differences between the two frameworks are apparent. For example, the ASAC adopts a normative position on measurement attributes and scales, stating that current prices and purchasing power units are preferable to historical prices and nominal dollars. However, the ASAC readily admits that the use of these attributes and scales may involve trade-offs with information qualities such as understandability and reliability. No attempt is made to reconcile these conflicts.

Developments in Australia

As a comprehensive framework has not been developed in Australia as yet, the discussion here is limited to the related monographs recently issued by the AARF. The monograph *Objectives and Basic Concepts of Accounting*, prepared by Alan Barton, takes a standard analytical approach and covers various aspects of a conceptual framework: objectives, user information needs, qualitative characteristics, fundamentals of accounting and reporting, and internal and external financial reports. Barton's objectives are similar to the FASB's,but more comprehensive, as he includes not only decision making, but also control and accountability. He identifies a number of user groups and several areas of informational needs: cash flow, rate of return on investment, and financial risk (which, according to Barton, can be determined with the help of the former, with nothing additional needed). His qualitative characteristics are similar to those of the FASB, but his list includes understandability, which the FASB treats as user-specific. Barton takes an events approach, and introduces considerable flexibility by defining an event as any happening of consequence to the firm's financial position. Unlike the FASB, Barton is very emphatic on the system of measuring income and wealth. He favors current value accounting, based either on entry or exit values, and states that the only concepts of income, financial position, and earning power which can satisfy the information requirements of users are those based on current market values of assets.

In their monograph, *The Definition and Recognition of Revenue*, Coombes and Martin provide a very clear presentation of revenue recognition issues but only under the historical cost system. They discuss the underlying criteria of realization, external transaction, and critical event, and reject them all. They conclude that the resolution of uncertainty is the most fundamental test underlying the concept of revenue recognition in the historical cost system.

In *The Definition and Recognition of Liabilities*, Jean St. Kerr defines a liability as the future sacrifice of economic benefits that an entity may be required to make in satisfaction of a present obligation to transfer assets or provide services to other entities as a result of past transactions or events. The principal difference with the FASB here is that Kerr thinks that the uncertainty involved in the probability of future sacrifice should be a consideration only in the decision whether to recognize a liability and not in its definition.

From the various monographs and other publications in this area, Australia seems to be taking a more inductive approach than the United States devoting considerable effort to document the present practices. However, the concept of the true and fair view appears to be giving way to decision usefulness. The Australian framework may be expected to have a broad application and probably present a complete accounting model.

International Developments

The IASC's framework seems to be a more precise and refined version of the US framework and avoids many of the logical deficiencies and other pitfalls of the latter. (For a discussion of such deficiencies and pitfalls, see, for example, Kripke (1989) and Agrawal (1987).) After identifying users and their needs, the framework deals with the objective of financial statements, the qualitative characteristics that determine the usefulness of information in financial statements, the definitions, recognition and measurement of the elements from which financial statements are constructed, and concepts of capital and capital maintenance.

The IASC identifies several groups of users and their informational needs, but emphasizes those that are common to all users. However, it further indicates that financial statements that meet the needs of investors (providers of risk capital) will also meet most of the needs of other users. Only one objective of financial statements is specified which, however, seems to capture the essence of the numerous objectives in the FASB's framework. The objective of financial statements is to provide information on the financial position, performance and changes in financial position of an enterprise that is useful to a wide range of users in making economic decisions. It is indicated that some users may use information to assess the stewardship or accountability of management; but this is also done to make certain economic decisions. To meet their objective, financial statements are prepared on the accrual basis and with a going concern assumption.

The principal qualitative characteristics of financial statements are similar to those specified by the FASB and other bodies. Their definitions also capture the essence of more detailed discussions found elsewhere.

(1) *Understandability:* Users are assumed to have reasonable knowledge of business and economic activities and accounting and a willingness to study the information with reasonable diligence. Even so, relevant but complex matters should not be excluded.

(2) *Relevance:* Information has the quality of relevance when it influences the economic decisions of users by helping them evaluate past, present, or future events, or confirm or correct their past evaluations. The relevance of information is affected by its nature and materiality. It is material if its omission or misstatement could influence the economic decisions of users.

(3) *Reliability:* Information has the quality of reliability when it is free from material error and bias and can be depended upon by users to represent faithfully that which it either purports to represent or could reasonably be expected to represent. Faithful representation requires that transactions and events are presented in accordance with their substance and economic reality and not merely their legal form. Uncertainty surrounding events and circumstances is recognized by the disclosure of their nature and extent, and by the exercise of prudence in the preparation of financial statements. Prudence in this context is the inclusion of a degree of caution in the exercise of the judgements needed in making the estimates, such that assets or income are not overstated and liabilities or expenses are not understated. To be reliable, information must be complete within the bounds of materiality and cost.

(4) *Comparability:* Users must be able to compare the financial statements of an enterprise through time, and those of different enterprises. Thus, the measurement and display of the financial effect of similar transactions and other events must be performed in a consistent way. However, the need for comparability should not be confused with mere uniformity and should not be allowed to become an impediment to the introduction of improved accounting standards.

The achievement of relevance and reliability of information is subject to several constraints: timeliness, balance between benefit and cost, and trade-off between qualitative characteristics. Although the framework does not directly consider the concepts of true and fair view or fair presentation, it is stated that the application of the principal qualitative characteristics and of appropriate accounting standards normally results in financial statements that convey what is generally understood as a true and fair view of, or as presenting fairly, such information.

The framework lists only five elements: three for the balance-sheet and two for income statement. An asset is defined as a resource controlled by the enterprise as a result of past events and from which future economic benefits are expected to flow to the enterprise. A liability is defined as a present obligation arising from past events, the settlement of which is expected to result in an outflow from the enterprise of resources embodying economic benefits. Equity is the residual interest in the assets of the enterprise after deducting all its liabilities. In assessing whether an item meets any of these definitions, attention needs to be given to the underlying substance and economic reality and not merely the legal form.

Profit is frequently used as a measure of performance or as the basis for other measures, such as return on investment or earnings per share. Elements directly related to the measurement of profit are income and expenses. Income is defined as increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity other than those relating to contributions from equity participants. The definition of income encompasses both revenue and gains. Revenue arises in the course of the ordinary activities of an enterprise, and gains represent other items. Expenses are decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or incurrences of liabilities that result in decreases in equity, other than those relating to distributions to equity participants. This definition encompasses both expenses that arise in the course of the ordinary activities of the enterprise and other items referred to as losses.

The international framework does not use a concept similar to the comprehensive income found in the FASB's framework. This distinction acquires more importance when considered in the context of the concept of capital maintenance.

The international framework differs from the FASB's framework in regard to recognition. Two criteria must be met for recognition of an element in the financial statements: (1) it is probable that any future economic benefit associated with the item will flow to or from the enterprise; and (2) the item has a cost or value that can be measured with reliability. An item that possesses the essential characteristics of an element but fails to meet these criteria may none the less warrant disclosure in the notes, explanatory material or in supplementary schedules.

On measurement of elements, the IASC does not take a definitive stand. It lists several measurement bases: historical cost, current cost, realizable value, and present value. The framework states that the basis most commonly adopted is historical cost, usually combined with other bases. It also states that some enterprises use the current cost basis as a response to the inability of the historical cost accounting model to deal with the effects of changing prices of non-monetary assets. The framework addresses the question of the stability of the unit of measurement only in the context of capital maintenance and not as a measurement issue.

The framework discusses two concepts of capital maintenance: financial (measured in either nominal monetary units or units of constant purchasing power) and physical. The selection of the appropriate concept of capital by an enterprise should be based on the needs of the users of its financial statements. The concept chosen indicates the goal to be attained in determining profit. However, a financial concept of capital is adopted by most enterprises in preparing their financial statements.

The physical capital maintenance concept requires the adoption of the current cost basis of measurement. All price changes affecting the assets and liabilities of the enterprise are viewed as changes in the measurement of the physical productive capacity of the enterprise; thus, they are treated as capital maintenance adjustments that are part of equity and not as profit. Profit represents only the increase in physical productive capacity over the period.

The financial capital maintenance concept does not require the use of a particular basis of measurement. If capital is defined in terms of nominal monetary units, profit represents the increase in nominal money capital. Thus, increases in the prices of assets (holding gains) are, conceptually, profits, although they may not be recognized as such until the assets are disposed of. When the concept of capital is defined in terms of constant purchasing power units, profit represents the increase in invested purchasing power. Thus, only the increase in the prices of assets that exceeds the increase in the general level of prices is regarded as profit. The rest of the increase is treated as a capital maintenance adjustment, and, hence as part of equity.

The selection of the measurement basis and concept of capital maintenance will determine the accounting model used in the preparation of the financial statements. This framework is applicable to a range of accounting models and provides guidance on preparing and presenting the financial statements constructed under the chosen model. At present, it is not the intention of the Board of the IASC to prescribe a particular model other than in exceptional circumstances, such as for those enterprises reporting in the currency of a hyperinflationary economy.

Conclusions

The following conclusions may be drawn from the foregoing discussion:

(1) A strong need is perceived for a conceptual framework to guide accounting standards and principles. However, there is no consensus on some of the basic issues, particularly on a complete model of accounting, either within a country or at the international level. As a result, issues relating to the recognition and measurement of various elements of financial statements and to the concept of capital maintenance remain unresolved.

(2) There is considerable uncertainty as to the users of accounting information and their informational needs. Although exhaustive lists of potential users and of examples of decisions they might make are often given, there is no unanimity on which particular user group(s) or information needs are expected to be addressed by financial statements. Mere assertions that information useful for a particular group or for a particular purpose would also be useful for all the other groups or for all the other purposes are not an adequate basis for developing the theory of accounting.

(3) There is a definite shift from the concept of the true and fair view (or fair presentation) to decision usefulness of information. This is a significant change in the paradigm of accounting based on theoretical considerations. The full implications of this change for accounting practice are not yet clear. A

whole-hearted adoption of this concept might obviate the need of a single accounting model and might necessitate reporting of multiple measures of different elements and various combinations and permutations of the same.

(4) Greater emphasis seems to be placed on earnings and other measures of performance of enterprises in contrast to a passive reporting of their financial position. Furthermore, a need is perceived for the measurement of uncertainty surrounding various events and circumstances.

The issues raised above need to be resolved by further theoretical and empirical research. Research questions should relate to the identification of users of accounting, decisions these users make, decision models they use, and the information that is relevant for such models. After conclusions are reached on these issues, further research will be needed to identify information that should be the subject matter of accounting which will have an adequate degree of reliability and certainty and can be provided on a timely basis.

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The Effects of Translation Accounting Requirements and Exchange Rates on Foreign Operations' Financial Performance — the Case of Indonesia

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Key words: Foreign currency translation rates; National currency translation rates; Foreign subsidiaries' operating measures

Abstract: *Foreign operations are commonplace today. Considerable effort has been spent to determine the "right way" to translate the financial results of foreign operations in the currency of the parent company. The United States has had several iterations, finally arriving at Statement of Financial Accounting Standard No. 52. Similar experiences have occurred in some other countries.*
The study analyzes the effect of various country's translation rules and exchange rates on manager performance evaluation. Indonesia was the basis of the study. Foreign subsidiaries in that country with parents in the United States, United Kingdom, Japan, The Netherlands, and West Germany were analyzed. It was found that, regardless of the particular translation rules used or exchange rates, using any translated data for performance evaluation purposes was misleading. Rather, the performance of managers operating in a foreign country should be evaluated in the local currency and not the parent company's currency.

The economy in which US companies operate is increasingly becoming a world economy. Twenty-five years ago the company that had foreign operations was rare and such operations were generally limited to large corporations. A majority of large US companies today have foreign operations as do many small and medium-sized companies. One of the problems that arise in this situation is how to evaluate managers of foreign subsidiaries.

Performance evaluation of foreign subsidiaries has been discussed and compared with methods used in evaluating domestic subsidiaries. The most commonly used methods are the comparison of budget with actual performance

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and the use of certain performance measure(s), such as return on investment (ROI). Although the objective of the evaluation is basically similar for domestic and foreign subsidiaries, the effects of changes in exchange rates and the method of translation unnecessarily complicate the evaluation process of managers of foreign operations. Demirag[1] found that a majority of respondents to his questionnaire used forecast exchange rates in developing budgets and in comparing actual results. This finding, however, does not solve the problem of the impact of changing exchange rates on financial performance evaluation. His study also found that translation gains and losses are not considered to be the responsibility of foreign managers. Tse[2] stated that the use of only one variable, i.e., ROI, for performance evaluation creates limitations. He suggested the use of multiple measures to overcome this problem. A similar conclusion was stated by Robbins and Stobaugh[3]: "multi-national companies should not use ROI in evaluating performance of foreign subsidiaries." They recommended, with some limitations, the use of comparison of budget with actual results.

The objectives of this study are to determine whether (1) the method of translation, e.g. using British translation rules versus US translation rules, has an impact on performance evaluation; and (2) the use of exchange rates, regardless of the method of translation, has an impact on performance evaluation. To accomplish these objectives, three comparisons will be made. First, the impact of the method of translation will be examined by comparing the translation of the same data using different translation rules. Second, to support the findings obtained in the first comparisons, data from each country will be translated using different requirements. The results of this step will show whether different translation requirements caused significant different translated results based on the same untranslated data. Third, to determine the impact of exchange rates, comparisons will be made of translated data using the same translation rules but different exchange rates.

Performance of foreign managers will be evaluated on the basis of several different measures, such as net income/total capital. This method of evaluation is considered superior to the use of only one measure, such as ROI, because it covers a broader area of performance.

Variable Selection

In this study the selection of financial ratios to be used was based on previous studies, where these ratios had been used for prediction and description purposes. Prediction of company failure was studied by Beaver[4], Tamari[5], Altman[6], Edmister[7], and several others. Another area of prediction, bond ratings, was investigated by Horrigan[8], Pogue and Soldofsky[9], West[10], and Pinches and Mingo[11].

Financial ratios for descriptive studies in several areas, such as differences in financial ratios among industries, were investigated by Gupta and Heufner[12]; and relationships between accounting-determined risk measures were studied by Beaver et al.[13], and Gonedes[14]. The hierarchical relationships among financial ratio groups was studied by Pinches et al.[15].

The results of the Pinches et al. study produced seven ratios with highest descriptive ability and highest factor loading that we consider to fit very well the nature of this study, which is descriptive. Therefore, those seven financial ratios, as shown in Table 1, are used to represent financial statements.

Table 1. Financial Ratios and Evaluation Criteria

Financial ratio	Evaluation criteria
1. Net income/total capital	Return on investment
2. Sales/net plant	Capital turnover
3. Inventory/sales	Inventory turnover
4. Debt/total capital	Financial leverage
5. Receivables/inventory	Receivables turnover
6. Current assets/current liabilities	Short-term liquidity
7. Cash/total assets	Cash position

Source: Pinches et al.[15]

Methodology

This study is based on financial statements of foreign subsidiaries operating in Indonesia and exchange rates between Indonesian rupiah and parent company currencies.

Financial Statements Data

The Indonesian stock market was reopened on August 10, 1977, after closing in 1958. The market has 27 listed companies as of the end of 1986. The home country of the listed companies is provided in Table 2.

Table 2. Companies Listed on the Indonesian Stock Market

Country of parent company	No. of subsidiaries
United Kingdom	1
Japan	3
United States	7
Netherlands	5
West Germany	1
Indonesia	10
Total	27

Because the purpose of this study is to compare the effects of different accounting translation rules and exchange rates, the Indonesian companies are not included in the sample. Financial statements in Indonesia currency for the period of 1982-1986 were collected from 17 foreign subsidiaries listed on the stock market.

Exchange rates

Exchange rates between Indonesian rupiah and foreign currencies needed to translate the financial statements into its parent's currency were collected from the daily report of the Bank Dagang Negara, Indonesia. Three different exchange rates were collected: end of year rates, annual average rates, and fourth-quarter average rates. The rates collected are for the period of 1981-1986 plus exchange rates from some previous years which will be used as historical exchange rates.

Translating Financial Statements

The financial statements are translated twice: first, into the parent's currency using the specific local translation rules; second, into the parent's currency using US accounting standards. From these translated statements, the seven ratios are calculated. The ratios are compared with similar ratios calculated from the untranslated financial statements. Differences are shown in relative (percentage) form on the basis of the untranslated ratios.

Hypotheses

The following research hypotheses are formulated to address the research objectives.

Hypothesis 1:

There is no significant effect of translation requirements and exchange rates on translated financial statements of foreign subsidiaries.

This hypothesis is used to address the first research objective. To test this hypothesis, the difference between untranslated and translated variables are calculated for each of the countries. A comparison of differences among countries is performed using a non-parametric procedure (Kruskal-Wallis test). A second test using data from each country and different translation requirements is used to calculate the difference between untranslated and translated variables. The comparison is performed separately for each country and the results are analyzed using the ANOVA method. This second test is performed to support the findings of the first analysis.

Hypothesis 2:

The exchange rates between Indonesian rupiah and foreign currencies do not cause significant differences between translated and untranslated financial statements.

This hypothesis is used to address the second research objective. The test for this hypothesis uses differences between untranslated ratios and ratios translated based on US accounting standards. Because of similar standards for translating all financial statements, the difference, if any, is caused by the exchange rates. As in the analysis of hypothesis 1, this analysis will be performed using a non-parametric procedure.

Consolidation and Translation Requirements

The choice of translation requirements for parent companies which were used in translating company data are based on the following facts:

(1) the Indonesian economy can be categorized as non-hyperinflationary;
(2) foreign subsidiaries used as sample in this study are independent of their parent; and
(3) if consolidation and translation are not required, the method selected here will be the one commonly used in the parent company's country.

The summary of accounting requirements for each country is as follows.

United Kingdom[16]

The Companies Act 1985 provides fundamental principles for Statement of Standard Accounting Practice (SSAP). Both the Companies Act 1985 and SSAPs become the sources of the accounting standards in the UK.

A company with one or more subsidiaries is required to file group accounts which usually are in the form of consolidated statements. The Act and SSAP permit some omission of this requirement, for example, when the subsidiary is in a completely different business activity from that of its parent.

Financial statements of foreign subsidiaries are to be translated as follows:

(1) balance-sheet items are translated using current exchange rate;
(2) income statement items are translated using the current rate or average rate-if the translation uses the average rate, the difference from current exchange rate, if any, is reported in the shareholder's equity;
(3) the difference of parent's net investment translated at the beginning and end of year is reported in the shareholders' equity.

Japan[17]

The accounting standards in Japan are prescribed in the Commercial Code of Japan and are supplemented by the Financial Accounting Standard for Business Enterprises. For companies whose stocks are traded on the stock exchange in the amount ¥100 million or more, annual consolidated statements are required by the Securities Transactions Law.

Financial statements of foreign subsidiaries and affiliated companies are translated into Japanese yen as follows:

(1) current exchange rate is used in translating current monetary items;
(2) historical exchange rate is used in translating non-current monetary and non-monetary items and the associated charges and credits to income statement;
(3) average rate is used in translating other revenues and expenses;
(4) translation difference is presented as an asset or liability item.

United States

The accounting standards in the United States are in the form of statements issued by the Financial Accounting Standards Board (FASB) and previous bodies. Accounting standards for consolidation are prescribed in Accounting Research Bulletin (ARB) Nos. 43 and 51 and in SFAS No. 94. The standard requires consolidation of majority-owned subsidiaries, including foreign subsidiaries.

SFAS No. 52 is based on the functional currency concept. The functional currency is defined as the currency of the environment in which an entity primarily generates and expends cash[18]. If the US dollar is the functional currency, the translation uses the temporal method. This method requires the use of the current exchange rate for balance-sheet items carried at current or future values (such as cash). The historical exchange rates are used in translating other balance-sheet items carried at historical cost (such as inventory and property and equipment) and the associated charges to income statement. Other income statement items are translated using the average exchange rate. If the local currency is the functional currency, the standards require foreign subsidiaries' financial statements to be translated into US dollars on the basis of the following:

(1) balance-sheet items are translated using current exchange rate;
(2) income statement items are translated using average exchange rate;
(3) translation adjustments are presented in the stockholders' equity.

The Netherlands

Companies in the Netherlands are classified into three categories: large, medium and small, on the basis of their sizes as measured by assets, sales, and number of employees. The Government issued a decree to establish the standard chart of accounts which became the basis for disclosure in the financial statements. Subsidiaries are to be consolidated and, if justified by the international nature of the group, the consolidated statements can be presented in a foreign currency rather than the Dutch florin. The annual financial statements of the parent company must be expressed in Dutch florin. The accounting standards are based on the Civil Code and the Council for Annual Reporting pronouncements.

The accounting principles for foreign currency translation are basically similar to SFAS No. 52 in that the nature of the subsidiary determines the exchange rate to be used. The translation of the foreign subsidiaries' financial statements are performed on the following basis:

(1) Subsidiary is independent of parent company.
    (a) Balance-sheet items are translated using current exchange rate.

(b) Income statement items are translated using average exchange rate.

(c) Translation adjustments are reported on the stockholders' equity.

(2) Subsidiary is an integral part of the parent's operations.

The translation is performed using the temporal method as required in SFAS No. 52 when the foreign currency is not the functional currency.

West Germany

Foreign subsidiaries are not to be consolidated except for companies in the world-class borrower category. A survey by Choi and Sondhi[20] revealed that current rate and temporal methods as well as variations of each are all used by companies in West Germany. Translation adjustments are reported in the stockholders' equity if the current rate method is used. However, these adjustments are included in net income by other methods. The majority of companies in the survey used the current rate method.

Table 3 summarizes the requirements for translating foreign subsidiaries in the five countries as discussed above.

Table 3. Summary of Translation Requirements for Independent Foreign Subsidiaries

Item	UK	Japan	US	Netherlands	W. Germany
Balance-sheet					
Monetary (current)	CR	CR	CR	CR	CR
Monetary (non-current)	CR	HR	CR	CR	CR
Non-monetary translation	CR	HR	CR	CR	CR
Adjustments	SE	A/L	SE	SE	SE
Income statement					
Revenue	CR	AR	AR	AR	AR
Expense	CR	AR	AR	AR	AR
Expense associated with non-current monetary and non-menetary	CR	HR	AR	AR	AR

CR = Current rate.
HR = Historical rate.
AR = Average rate.
SE = Stockholders' equity.
A/L = Assets/liabilities.

Table 3 shows that the current rate method of translation is required in the United States and Netherlands. In West Germany, because there is no requirement to consolidate foreign subsidiaries, there is no specified translation method. The current rate method is used in this study because that method was used by a majority of respondents surveyed by Choi and Sondhi. A modification of current rate method is required in the United Kingdom, where income statement items can be translated using the current or average rate. If the average rate is used, the difference between the average and current rates is included in the stockholders' equity. Monetary-non-monetary method is required for translating foreign subsidiaries of Japanese firms.

Analyses and Findings

Several steps were performed on the data to test hypothesis 1. First, financial statements were translated into the parent's currency as required by the accounting standards in the parent country. Second, seven financial ratios were calculated for the period 1982-1986 from both untranslated and translated financial statements. For each year the relative difference of each ratio calculated from the two financial statements was calculated using the following formula:

$$\frac{[\text{Ratio from translated statements} - \text{Ratio from untranslated statements}]}{\text{Ratio from untranslated statements}}$$

The results were in the form of seven relative differences between similar ratios for each country and each year. Finally, these seven differences were statistically tested using the Kruskal-Wallis test, and the results are provided in Table 4.

Table 4. Summary of Kruskal-Wallis Test for Differences Between Untranslated and Translated Financial Ratios Using Translation Requirements from Each Country

Ratio	Sources of sums of squares	Degrees of freedom	Sum of squares	*F* Values	Probability
NI/TC	Country	4	874.61	17.97	0.0001
	Year	4	3.24	0.07	0.9917
Sales/NP	Country	4	1283.61	48.00	0.0001
	Year	4	3.24	0.12	0.9745
Inv/S	Country	4	481.29	6.83	0.0001
	Year	4	30.30	0.43	0.7864
Debt/TC	Country	4	541.54	7.43	0.0001
	Year	4	3.24	0.04	0.9962
Rec/Inv	Country	4	215.50	2.60	0.0431
	Year	4	25.99	0.31	0.8676
CA/CL	Country	4	377.45	5.03	0.0012
	Year	4	3.24	0.04	0.9964
Cash/TA	Country	4	260.89	5.32	0.0011
	Year	4	127.50	2.60	0.0463

All seven ratios showed significant differences at the 0.05 level among countries. The differences among years were not significant, except for cash/total assets. The results, therefore, reveal that different translation requirements and exchange rates among these five countries cause significant differences in the financial ratios. Financial performance of foreign managers of these five countries in Indonesia is significantly affected by the translation requirements and changes in exchange rates. Therefore, research hypothesis 1 must be rejected.

The second test was performed only on the US and the Netherlands data, because of the small number of companies in the sample. To perform this test, financial statements from US companies were translated using three different requirements: those of the United States, Japan, and the United Kingdom. Three sets of differences between untranslated and translated financial ratios were calculated and tested using the ANOVA method. This method was used rather than the Kruskal-Wallis test because of the treatment of data from similar

Table 5. The Means of Relative Differences Between Untranslated and Translated Ratios Using Requirements from Each Country

Country	1982	1983	1984	1985	1986
United States					
NI/TC	0.0484	0.0935	0.0468	0.0126	0.2790
Sales/NP	0.0484	0.0935	0.0468	0.0126	0.2790
Inv/Sales	−0.0065	0.0900	−0.0056	0.0111	−0.0445
Debt/TC	0.0000	0.0000	0.0000	0.0000	0.0000
Rec/Inv	−0.0089	0.0156	−0.0050	−0.0012	0.0241
CA/CL	0.0000	0.0000	0.0000	0.0000	0.0000
Cash/TA	0.0335	0.2260	0.0376	0.0207	0.2379
Japan					
NI/TC	3.0589	−0.2550	−0.3317	−0.0413	−4.7195
Sales/NP	0.0200	−0.1929	−0.3333	−0.4891	−0.7232
Inv/Sales	−0.0088	0.0891	0.0112	0.1395	0.4246
Debt/TC	0.0310	−0.3159	−0.3318	−0.4808	−0.7189
Rec/Inv	0.0043	0.0018	0.0029	0.0108	0.0397
CA/CL	−0.0034	0.0405	−0.0007	−0.0051	−0.0045
Cash/TA	0.0274	0.0039	−0.1720	−0.1694	−0.2427
United Kingdom					
NI/TC	0.0000	0.0000	0.0000	0.0000	0.0000
Sales/NP	0.0000	0.0000	0.0000	0.0000	0.0000
Inv/Sales	−0.0364	0.1361	−0.0596	0.1455	0.2677
Debt/TC	0.0000	0.0000	0.0000	0.0000	0.0000
Rec/Inv	−0.0054	−0.0259	−0.0069	−0.0075	−0.0182
CA/CL	0.0000	0.0000	0.0000	0.0000	0.0000
Cash/TA	−0.0298	N/A	N/A	0.0742	0.1450
West Germany					
NI/TC	−0.0140	−0.0297	0.0029	−0.1838	−0.0176
Sales/NP	−0.0140	−0.0297	0.0029	−0.1828	−0.0176
Inv/Sales	0.0142	0.1855	−0.0241	0.3925	0.3658
Debt/TC	0.0000	0.0000	0.0000	0.0000	0.0000
CA/CL	0.0000	0.0000	0.0000	0.0000	0.0000
Cash/TA	0.0000	N/A	N/A	N/A	0.3768
Netherlands					
NI/TC	−0.0154	−0.0093	0.0066	−0.0246	−0.0212
Sales/NP	−0.0154	−0.0093	0.0066	−0.0246	−0.0212
Inv/Sales	0.0115	0.1288	−0.0290	0.1832	0.4306
Debt/TC	0.0000	0.0000	0.0000	0.0000	0.0000
Rec/Inv	0.0006	−0.0028	−0.0010	−0.0105	0.0262
CA/CL	0.0000	0.0000	0.0000	0.0000	0.0000
Cash/TA	−0.0063	0.1048	−0.0233	0.1709	0.4506

N/A = Not applicable

companies as repeated measures. Similar steps were taken for financial statements of the Netherlands subsidiaries. The results revealed that, except for cash/total assets calculated using the Netherlands data, the difference between untranslated and translated ratios were significantly affected by the method of translation. This finding suggests that different translation requirements result in significantly different translated financial statements.

To determine the direction of the effects, an average of each difference was calculated and is given in Table 5.

Results in Table 5 were analyzed on the basis of the following rule. For each country the analysis was performed for each year. In determining the direction of the differences, a majority rule was used. For example, if four of seven ratios in a particular year show positive effects, then the effects of translation requirements and exchange rates were considered positive for that year. In the case where a difference was zero, it was not used to determine the direction of differences in that year. Only positive or negative differences were used.

US companies experienced positive effects in all years studied. Japanese companies experienced positive effects in 1982 and 1983: however, the effects were negative in 1984, 1985, and 1986. Negative effects were found in 1982 and 1984 for the British company, with inconclusive effects in 1983. For the other two years (1985 and 1986) the effects were positive. For West Germany, the effects were found to be positive in 1984 and 1986; however, for the other three years the effects were negative. The effects of these two variables on the Dutch companies were negative in each of the first four years. Only in 1986 were the effects positive. A summary of the effects for each country is provided in Table 6.

Table 6. Summary of the Means of the Effects of Translation Requirements and Exchange Rates on Annual Performance Evaluation

Country	1982	1983	1984	1985	1986
United States	+	+	+	+	+
Japan	+	+	–	–	–
United Kingdom	–	0	–	+	+
West Germany	–	–	+	–	+
Netherlands	–	–	–	–	+

From these five countries, managers of US companies operating in Indonesia were the most fortunate. In each of the years studied, their translated performance was higher than the untranslated one. For the other countries the translation requirements and exchange rates showed different results. Japanese, West Germany, and dutch companies experienced negative effects in a majority of years. The cumulative effects for foreign managers of these three countries were unfavourable. For the British company the effects were inconclusive. Two years of negative effects were accompanied by two years of positive effects, and the other year showed inconclusive results.

In analyzing hypothesis 2, financial statements from all companies were translated using requirements in SFAS No. 52, assuming that the foreign currency was the functional currency. The purpose of this analysis was to obtain the effects (if any) of changes in exchange rates on translated financial performance of foreign subsidiaries operating in Indonesia. The summary of the Kruskal-Wallis test is provided in Table 7.

Table 7. Summary of Kruskal-Wallis Test for Differences Between Untranslated and Translated Financial Ratios Using the US (SFAS No. 52) Translation Requirements

Ratio	Sources of sums of squares	Degrees of freedom	Sum of squares	*F* Values	Probability
NI/TC	Country	4	1443.94	80.44	0.0001
	Year	4	3.24	0.18	0.9479
Sales/NP	Country	4	1443.94	80.44	0.0001
	Year	4	3.24	0.18	0.9479
Inv/S	Country	4	498.78	7.18	0.0001
	Year	4	30.30	0.44	0.7820
Debt/TC	Country	4	95.83	1.04	0.3928
	Year	4	3.24	0.04	0.9976
Rec/Inv	Country	4	108.30	1.22	0.3107
	Year	4	25.99	0.29	0.8819
CA/CL	Country	4	24.25	0.28	0.8902
	Year	4	3.24	0.04	0.9973
Cash/TA	Country	4	105.22	1.73	0.1568
	Year	4	127.50	2.10	0.0940

Three financial ratios (net income/total capital, sales/net plant, and inventory/sales) were significantly affected by changes in exchange rates. The other four ratios, however, were not. Two exchange rates (end of year and average rates) used in translating these financial statements caused the difference in results. The first three ratios (which were significantly affected) were translated using different rates for the numerator and the denominator, whereas the other four ratios (which were not significantly affected) were translated using similar rates for the numerator and the denominator. The use of two exchange rates in translating one ratio, therefore, caused significant effects among countries.

As in the analysis of hypothesis 1, the average of each difference was calculated and is provided in Table 8.

By using only the three ratios significantly affected (net income/total capital, sales/net plant, and inventory/sales), as shown in Table 8, the effects of exchange rates on performance of the US subsidiaries in Indonesia were positive in all periods studied. Positive effects were found only in 1983 for Japanese companies, with negative effects in the other four years. For the British company, the effects were similar to those of Japanese companies, that is, except in 1983, the effects were negative. West Germany and Dutch companies were positively affected in 1984. However, for the other four years, the effects were negative. A summary of the effects of exchange rates on each country's subsidiaries is provided in Table 9.

Table 8. The Means of Relative Differences Between Untranslated and Translated Ratios Using the US (SFAS No. 52) Translation Requirements

Country	1982	1983	1984	1985	1986
United States					
NI/TC	0.0484	0.0935	0.0468	0.0126	0.2790
Sales/NP	0.0484	0.0935	0.0468	0.0126	0.2790
Inv/Sales	−0.0065	0.0810	−0.0056	0.0111	−0.0445
Debt/TC	0.0000	0.0000	0.0000	0.0000	0.0000
Rec/Inv	−0.0089	0.0156	−0.0050	−0.0012	0.0241
CA/CL	0.0000	0.0000	0.0000	0.0000	0.0000
Cash/TA	0.0335	0.2260	0.0376	0.0207	0.2379
Japan					
NI/TC	−0.0106	0.1726	−0.0023	−0.0159	−0.0150
Sales/NP	−0.0106	0.1726	−0.0023	−0.0159	−0.0150
Inv/Sales	−0.0071	0.0903	0.0137	0.1515	0.4363
Debt/TC	0.0000	0.0000	0.0000	0.0000	0.0000
Rec/Inv	0.0026	0.0008	0.0004	0.0002	0.0313
CA/CL	0.0000	0.0000	0.0000	0.0000	0.0000
Cash/TA	−0.0155	0.2324	0.0115	0.1491	0.4750
United Kingdom					
NI/TC	−0.0045	0.0021	−0.0063	−0.0164	−0.0217
Sales/NP	−0.0045	0.0021	−0.0063	−0.0164	−0.0217
Inv/Sales	−0.0321	0.1337	−0.0446	0.1645	0.2958
Debt/TC	0.0000	0.0000	0.0000	0.0000	0.0000
Rec/Inv	−0.0054	−0.0259	−0.0069	−0.0075	−0.0182
CA/CL	0.0000	0.0000	0.0000	0.0000	0.0000
Cash/TA	−0.0298	N/A	N/A	0.0742	0.1450
West Germany					
NI/TC	−0.0140	−0.0297	0.0029	−0.1828	−0.0176
Sales/NP	−0.0140	−0.0297	0.0029	−0.1828	−0.0176
Inv/Sales	0.0142	0.1855	−0.0241	0.3925	0.3658
Debt/TC	0.0000	0.0000	0.0000	0.0000	0.0000
Rec/Inv	0.0000	−0.0320	0.0005	−0.0128	0.0745
CA/CL	0.0000	0.0000	0.0000	0.0000	0.0000
Cash/TA	0.0000	N/A	N/A	N/A	0.3768
Netherlands					
NI/TC	−0.0154	−0.0093	0.0066	−0.0246	−0.0212
Sales/NP	−0.0154	−0.0093	0.0066	−0.0246	−0.0212
Inv/Sales	0.0115	0.1288	0.0290	0.1832	0.4306
Debt/TC	0.0000	0.0000	0.0000	0.0000	0.0000
Rec/Inv	0.0006	−0.0028	−0.0010	−0.0105	0.0262
CA/CL	0.0000	0.0000	0.0000	0.0000	0.0000
Cash/TA	−0.0063	−0.0063	−0.0233	0.1709	0.4506

Table 9. Summary of the Means of the Effects of Exchange Rates on Annual Performance Evaluation

Country	1982	1983	1984	1985	1986
United States	+	+	+	+	+
Japan	−	+	−	−	−
United Kingdom	−	+	−	−	−
West Germany	−	−	+	−	−
Netherlands	−	−	+	−	−

Managers of US subsidiaries operating in Indonesia, compared with the other four countries' subsidiaries, were again the most fortunate. Changing exchange rates in five years since 1982 caused their translated financial performance to be higher than if their performance was evaluated on the basis of the untranslated financial statements. For the other four countries' subsidiaries, however, the effects of changes in exchange rates in those years were mostly negative. Foreign managers of those four countries' subsidiaries in Indonesia found that their translated performance was lower in four of five years.

Implication and Limitations

This study found that, compared with untranslated performance, standards for translation accounting and exchange rates both significantly affect performance evaluation of managers of foreign companies operating in Indonesia. The improvement or deterioration is caused by factors that are not controllable by those managers. Should those managers be held responsible for such uncontrollable factors? If they are held responsible, their performance will be evaluated on the basis of translated results, including the effects of accounting requirements and exchange rate. This is not a fair basis, because, as shown by the results of this study, without extra efforts, US managers will be evaluated as better than managers from other countries. Similar results were found using the assumption that all countries have similar accounting standards.

To improve the comparability of the performance evaluation, foreign managers should be evaluated on the basis of the untranslated results. Using this basis, the evaluation would be performed only on the "controllable" performance. There would be no "uncontrollable gains and losses" included in the evaluation.

The use of untranslated statements as a basis for evaluating performance will not limit the activity of those managers in relation to foreign currency transactions. Gains and losses resulting from foreign currency transactions are still the responsibility of those managers.

The nature of the data used in this study caused several limitations in generalizing the findings. The selection of companies to be included in the sample was not performed randomly, as a result of the limited number of companies listed on the Jakarta stock market. This situation caused the use of only one company to represent each of the United Kingdom and West Germany, which perhaps affects the calculation of the mean of the relative difference, and limits the ability to generalize the results. Another limitation is the use of only subsidiaries operating in Indonesia. Difference economic conditions among countries certainly affects the direction and magnitude of changes in exchange rates, which will affect the results of translating foreign subsidiaries' financial statements. Therefore, further testing is needed, using data from different countries and applying the methodology used in this study.

Summary and Conclusion

This study was conducted using financial statements from 17 foreign subsidiaries operating in Indonesia and exchange rates data between the Indonesian rupiah and the currencies of parent companies of those subsidiaries. Two hypotheses were evaluated using the Kruskal-Wallis test and the means of the differences. The first hypothesis was analyzed by translating each financial statement by using the parent's accounting requirements. Financial ratios calculated from these translated statements were compared with similar ratios calculated from the untranslated statements. The results of the analysis reveal that the relative difference of each ratio was significant among countries. The differences caused US companies in Indonesia to have higher translated financial performance, compared with the performance evaluated on the basis of the untranslated statements. For Japanese, West Germany, and Dutch companies, the effects were mostly negative. Inconclusive results were found for the British company.

The second hypothesis was analyzed by translating each financial statement using requirements provided in SFAS No. 52. Only three ratios showed significant differences among countries. On the basis of those three ratios, US managers in Indonesia had a higher translated performance than indicated by the untranslated statements. For the other four countries' subsidiaries, the effects of exchange rates were mostly negative.

To eliminate the effects of translation requirements and exchange rates, performance of foreign managers should be evaluated on the basis of the untranslated results. using this basis, the performance of foreign managers will be comparable among countries and with performance of domestic managers.

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The Determinants of Accuracy of Management Earnings Forecasts: A New Zealand Study

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Key words: Accuracy of earnings forecasts; Forecast characteristics; Determinants of earnings forecast accuracy

Abstract: *Most previous studies on earnings forecast accuracy used data relating to the United States and United Kingdom. There has been no published study using New Zealand (NZ) data and it is unclear that previous findings are generalizable to New Zealand. This study tests the generalizability of previous findings and also contributes new evidence on the determinants of earnings forecast accuracy. The present study examines the relationship between company, industry, general economic and forecast characteristics, and the accuracy of management earnings forecasts. Forecasts examined are those voluntarily disclosed in NZ prospectuses for new issues of equity securities. A multiple regression model incorporating forecast horizon, firm size, operating history, industry membership and changes in economic conditions as independent variables is used. The results show that the longer the forecast horizon, the less accurate is the forecast. In addition, firms with an operating history tend to provide more accurate forecasts than firms without an operating history. Further, the greater the change in economic conditions during the period of the forecast, the less accurate is the forecast. However, firm size and industry membership appear relatively unrelated to forecast accuracy.*

The investigation of management earnings forecasts has been of considerable interest to accounting researchers. Previous studies have generally focused on three aspects of earnings forecasts:[1]

(1) the distribution of earnings forecast errors and their determinants;

(2) the management earnings forecast process and disclosure decisions; and

(3) the characteristics of firms disclosing forecasts.

This study provides additional evidence on the determinants of earnings forecast accuracy and also replicates previous studies using data from a different

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country. Furthermore, most studies examining the accuracy of management earnings forecasts have used forecasts issued in conjunction with annual results, rather than at the time of a first public issue of securities (an exception to this is the study by Ferris and Hayes[2]). Brown et al. argued that forecast accuracy may differ according to the context in which it is made.[3] It is possible that relationships between determinants and forecast accuracy may also be dissimilar in different contexts.

Earlier Research

Earlier research suggests that forecast horizon is an important determinant of forecast accuracy. For example, Hagerman and Ruland found that "the accuracy of management forecasts declines as the horizon is increased".[4] Forecast horizon is usually defined as "the time yet to elapse before the end of the fiscal year of the period being forecast".[5]

Firm size has also been found by some studies to be related to forecast accuracy. For example, Hagerman and Ruland found that forecasts by large firms tend to be more accurate then forecasts by smaller firms.[6] However, Jaggi found no systematic differences in forecast accuracy for firms of different sizes.[7]

Another variable found to be related to forecast accuracy is industry membership. Earlier research has observed that utilities exhibit lower forecast errors in comparison with other industries. Basi et al. argued that because utilities are highly regulated and typically possess less business risk, they can be expected to have less variable earnings over time.[8] However, apart from utilities, little explanation has been advanced as to why forecast accuracy can be expected to differ across industries. Industry membership is often included in empirical investigations as an independent variable, but without theoretical justification. There have also been inconsistent definitions of this variable across studies. For example, Jaggi distinguished between manufacturing, chemical, utility, banking and finance, and service industries,[9] whereas Porter classified industries as manufacturing, utility and other.[10] Consequently, it is difficult to generalize and explain the relationship between industry membership and forecast accuracy.

Economic conditions may also affect forecast accuracy. For example, using overall company profitability as a measure of economic conditions, McDonald found that where economic conditions were poor, forecast errors tended to be higher.[11] Some previous studies used the "year of forecast" as a surrogate for possible differences in economic conditions across the different years covered by the sample of forecasts. Porter found that the year of forecast was related to forecast accuracy and concluded that the general economy influenced the ability to forecast.[12]

Previous studies of the determinants of forecast accuracy have generally focused on bivariate relationships. Where bivariate statistics are used, significant correlations between multiple predictor variables and forecast accuracy may be a result of these predictor variables proxying for the same underlying factor.[13] In contrast, Porter used a multivariate model incorporating a firm's earnings variability, leverage, relative market risk (beta), industry membership, and the year of forecast, as potential determinants of the accuracy of management earnings forecasts. Using analysis of covariance, his main conclusions were:

(1) earnings variability was negatively related to forecast accuracy,

(2) utilities provided more accurate forecasts, and

(3) year of forecast was related to forecast accuracy.

Porter also observed evidence of interaction effects between the independent variables.[14]

Hypotheses

Forecast Horizon

A priori, one would expect that the shorter the forecast horizon, the more accurate will be the forecast. Forecasting is an inherently uncertain process and the longer the forecast horizon, the greater the possibility that unexpected events will affect the object of the forecast. Furthermore, it has been argued that:

"if it is considered important to avoid failing to meet forecasts, they would be made more conservative as forecast intervals lengthen by increasing the 'contingency discount' ... If this were done, the ratios of reported to forecast profits would also increase as forecast intervals lengthen."[15]

In contrast to the general evidence of a negative relationship between forecast horizon and forecast accuracy, Ferris and Hayes found that forecast accuracy was positively related to forecast horizon, which they conceded was counter-intuitive. They conjectured that where the forecast period is longer, management may have a greater opportunity to exercise discretion in maintenance and capital expenditure decisions, which may cause actual results to fall closer to predicted results.[16]

Notwithstanding Ferris and Hayes' finding, the weight of earlier evidence suggests the following hypothesis:

Hypothesis 1: Forecast horizon is negatively related to forecast accuracy.

Firm Size

Hagerman and Ruland reported that forecasts by large firms tend to be more accurate than those by smaller firms. They suggested the following explanation for this positive relationship between size and forecast accuracy:

"Large firms are often more diversified and are thus better able to weather the effects of changing environmental conditions. In addition, large firms can commit more resources to forecasting and, consequently, can produce more accurate forecasts than smaller firms."[17]

There may also be stronger incentives for managements of larger companies to provide more accurate forecasts. It has been suggested that large firms generally have "a higher association with a larger flow of external information sources than do smaller firms."[18] External information sources have the potential to confirm or dispute the information released by managements and therefore serve as monitoring mechanisms.

Contrary to Hagerman and Ruland's finding, Jaggi reported the absence of any systematic relationship between firm size and accuracy.[19] If any relationship between firm size and forecast accuracy exists, it can be expected to be positive. Consequently, the following hypothesis was tested:

Hypothesis 2: Firm size is positively related to forecast accuracy.

Operating History

Previous studies have not examined the impact of operating history on forecast accuracy. Past data, however, are important inputs to the forecasting process. For example, most quantitative forecasting models (e.g., time-series analysis) use information on past trends to forecast future trends. A firm without an operating history is therefore likely to be less accurate in its forecast of future earnings than a firm with an operating history.

Companies offering securities to the public for the first time may be merely converting from private to public status with little change in operations, or may be formed to merge or acquire several existing private companies, with these private companies often becoming subsidiaries of a new company. In these cases, although the new company may involve an increased scope of operations, the operating histories of pre-existing companies are likely to provide a useful basis for forecasting the earnings of the new company. On the other hand, a new company may be formed to acquire individual assets and commence operations for the first time-such a company will have no operating history on which to base the forecasting of earnings.[20] The forecasting exercise for this latter group of companies can be expected to be more difficult than for the former. Therefore, in this study, a distinction is made between firms with no operating history and firms which have an operating history, and the following hypothesis was tested:

Hypothesis 3: Operating history is positively related to forecast accuracy.

Industry Membership

There is evidence that industry membership is related to forecast accuracy. For example, Dev and Webb observed that the forecast errors for two of the industry groups in their study (building, timber, and roads; foods and groceries) were significantly less than for their entire sample of companies.[21]

The small number of NZ companies within each industry grouping precludes an analysis of the relationship between narrowly defined industry groupings (e.g., food, textiles, steel, etc.) and forecast accuracy. Some studies have dealt with this by making distinctions between industries at a very broad level. For example, Porter distinguished between manufacturing, utility and other companies.[22] This study adopts a similar approach by distinguishing between companies in the manufacturing, farming, investment and property, and other industries.[23] Although admittedly crude, there are theoretical grounds for this distinction.

During the period of the study, there was a phasing out of import licensing, export incentives and other assistance to land-based and manufacturing industries.[24] Many business commentators have argued that recent structural changes introduced in New Zealand had the greatest adverse effect on farming and manufacturing companies. These companies therefore had to cope with relatively more significant changes in economic conditions and may therefore be less able to rely on their past experience or the past experience of other companies in their industries in forecasting earnings.

For the purposes of this study, the accuracy of forecasts made by companies in the manufacturing and farming industries was compared with the accuracy of those made by companies in investment and property and other industries.[25] The following hypothesis was tested:

Hypothesis 4: Manufacturing and farming companies have lower forecast accuracy compared with other companies.

Economic Conditions

Earlier research suggested that where forecasts for different years are pooled together in analysing forecast accuracy, differences in general economic conditions have to be taken into account. Using overall corporate profitability as a measure of economic conditions, McDonald compared the prediction errors for those years when overall corporate profitability declined against those years when overall corporate profitability increased. He found that for each of the forecast years, the average prediction error was negative. However, where economic conditions were poor, the prediction errors were larger.[26]

Porter found that the year of forecast was related to forecast accuracy (defined as the absolute prediction error) and concluded that "the results point out the influence of the general economy on the ability to forecast."[27] He argued that:

"The results do not prove that management will forecast more accurately during expansionary periods. Instead, the implication is that periods of significant fluctuation in economic conditions...will compound the problems of making accurate forecasts."[28]

Therefore, according to Porter, where there are significant positive or negative changes in economic conditions, forecasts will be less accurate. Significant positive changes in economic conditions may lead to actual earnings exceeding forecast earnings. Conversely, significant negative changes in economic conditions may lead to forecast earnings exceeding actual earnings.

The relationship between economic conditions and forecast accuracy has not been clearly specified. It should be noted that Porter referred to "significant fluctuations in economic conditions" having an impact on forecast accuracy. He noted that the period covered by his study "began with a strong upward trend and ended on a downward trend only three months away from a trough in the business cycle."[29] On the other hand, McDonald referred to economic conditions, rather than changes in economic conditions. However, his observation that changes in overall corporate profits over the past 5 years covered by his study were 10, −1, 9, 3, and −7 percent respectively suggests significant fluctuations in economic conditions over the period of his study. It is more reasonable to argue that it is changes in economic conditions, rather than economic conditions, which will create uncertainty and therefore affect forecast accuracy. For example, if overall corporate profits decrease gradually over successive periods of time, management may still be able to provide accurate forecasts even though economic conditions are poor.

The evidence on the impact of the general economy on forecast accuracy was not supported by Ferris and Hayes. Using a 200-day moving average of the share index as a measure of general economic conditions, they found that it "performed very poorly in its ability to explain forecast accuracy."[30] However, their finding may be a result of the way in which they operationalized "general economic conditions." First, the average of the index measures economic conditions, rather than changes in economic conditions. As discussed above, it may not be economic conditions *per se* but changes in economic conditions which affect forecast accuracy. If a share index is used, it may be more appropriate to use changes in the share index. Second, the share index average "was computed on the 200 days immediately preceding the date of issue" and was intended as a measure of "economic conditions during the period of the prospectus issuance,"[31] rather than for the period covered by the forecast. Third, it should be noted that there is considerable evidence that share prices tend to lead the economy by a considerable period.[32] The share price index at a particular point in time may reflect medium-term economic conditions, rather than immediate and short-term economic conditions.

Some studies have used multiple binary variables representing various forecast years as surrogates for differences in economic conditions, the above-mentioned study by Porter being one example. Such a measure has poor discriminatory power because two forecasts for the same forecast year may relate to very different economic conditions.[33] A direct, continuous measure of changes in economic conditions, if properly selected, is preferable to the use of a binary variable such as the year of forecast.

In this study, a direct measure of changes in economic conditions is used. Change in economic conditions is defined as the difference in economic conditions between the forecast period and the period before the release of the forecast, and the following hypothesis was tested:

Hypothesis 5: Changes in economic conditions is negatively related to forecast accuracy.

Data Collection and Variable Measurement

All prospectuses for new issues of equity securities to the public dated from September 1, 1983 were identified from the N.Z. Stock Exchange Annual

Reports. The starting date was chosen to coincide with the date the Securities Regulations 1983 (hereafter "the regulations") came into effect. These regulations supersede the requirements of the Companies Act of 1955, which previously governed prospectus requirements. One of the newly introduced requirements was a stipulation that the prospectus should include "a statement as to the trading prospects of the issuing group, together with any material information that may be relevant thereto."[34] Although quantitative earnings forecasts are not mandatory, many companies satisfy this requirement by providing such forecasts. The regulations require all such forecasts included in a prospectus to be reviewed by an auditor. The auditor is required to comment that the forecasts are properly compiled, based on the assumptions made. Although some companies included earnings forecasts in their prospectuses before imposition of the regulations, there was no requirement that they be audited, which could affect their accuracy. Consequently, there was a theoretical reason for excluding prospectuses for earlier years; June 30, 1987 was chosen as the cut-off date for prospectuses to be included in the study.

For the period 1983-1987, a total of 116 prospectuses were identified and collected.[35] Of these, 105 (90.5 percent) included earnings forecasts for at least one financial period (forecasts are often for periods other than one year). Initially, all earnings forecasts for financial periods ending before December 31, 1987 were included in the study.[36] This yielded a total of 151 earnings forecasts. Actual earnings figures for the periods corresponding to the forecasts were then obtained from annual reports. Forecasts for which there were no matching actual earnings figures available were then excluded from analysis, which resulted in a final sample of 111 forecasts (71 companies). The major reasons for missing actual earnings figures were mergers and takeovers, company failures, and mismatches between the period covered by a forecast and the period covered in the reported results.[37]

The measure of earnings used in this study was net profit after tax (NPAT), primarily because this figure was presented in all the forecasts. In most cases, extraordinary items, such as write-off of preliminary expenses and revaluations, were explicitly excluded from the forecasts. Steps were taken to ensure, so far as possible, that the definition of forecast and actual earnings were consistent.

Forecast accuracy was operationalized as the absolute percentage forecast error, which was calculated as shown in Eq. (1) below:

$$\text{AFE} \quad \frac{|\text{AE} - \text{FE}|}{|\text{FE}|} \quad = \qquad (1)$$

where AFE is the absolute percentage error, AE is actual earnings and FE is forecast earnings.

Forecast horizon was defined as the period from the date of the prospectus to the end of the financial period being forecast (in days). Firm size was defined as the log of total assets of the firm and was based on the balance-sheet figure as of the first balance date after the prospectus. Operating history was represented by a binary variable, a distinction being made between companies which converted from private to public status or formed through the acquisition or merging of existing companies (i.e., binary variable set equal to one), and those which were truly new companies. The industry membership of each firm was identified as manufacturing, farming, investment and property, or other. Three binary variables were used to represent the four industry groupings, with the "other" industry grouping being the reference category. Finally, the change in economic conditions was measured by taking the absolute difference between the average quarterly growth in gross domestic product (GDP) over the period of the forecast, and the average quarterly growth in GDP for the year immediately before the date of the prospectus. Quarterly data were used because this was the shortest time period for which information on GDP was available. Where a period includes at least half of a particular quarter, the growth in GDP for that quarter is included in the calculation of the average quarterly growth in GDP. This procedure applies to the calculation of average GDP growth for both the forecast period and for the period before the date of the prospectus. The seasonally adjusted, constant-dollar quarterly GDP index was used for this purpose. The use of the absolute value of the change in GDP growth is based on Porter's argument that significant changes (whether positive or negative) in economic conditions will have a negative effect on forecast accuracy.[38]

Information on changes in the GDP was obtained from the Department of Statistics "Monthly Statistics" publications. All other information required for the study was obtained from the prospectus and/or relevant annual report of the company.

Data Analysis and Results

As the hypotheses for the study were directional, one-tailed tests of significance were used. Pearson correlation coefficients among the dependent variables and the continuous independent variables were first computed. These are presented in Table 1.

Table 1. Pearson Correlations of Independent and Dependent Variables

	AFE	Horizon	Size
AFE[a]			
Horizon	0.3283***		
Size	−0.2156**	−0.2003**	
AGDPCH[b]	0.2187**	0.0150	−0.1561*

[a]A lower AFE represents a more accurate forecast.
[b]Absolute change in GDP growth, as previously defined.
*Significant at $P<0.10$.
**Significant at $P<0.05$.
***Significant at $P<0.01$.

This bivariate analysis showed that forecasts were less accurate for (1) longer forecast horizons, (2) smaller firms, and (3) larger changes in economic conditions. There was therefore preliminary support for hypotheses 1, 2 and 5.

A more detailed analysis of the relationships between forecast accuracy and the full set of independent variables was then conducted, using the multiple regression model specified in Eq. (2):

$$\mathrm{AFE}_i = \beta_0 + \beta_1 T + \beta_2 S + \beta_3 H + \beta_4 I1 + \beta_5 I2 + \beta_6 I3 + \beta_7 E + \grave{e}$$

where AFE_i is the absolute forecast error for forecast i; T is the forecast horizon; S is the firm size;
$H = 1$ if company has an operating history, or $H = 0$ if company has no operating history; $I1 = 1$ if manufacturing company, or 0 otherwise; $I2 = 1$ if farming company, or 0 otherwise; $I3 = 1$ if investment and property company, or 0 otherwise; E is the absolute change in GDP growth; β_i are the unstandardized regression coefficients; and è is the residual error.

The use of a multiple regression model addresses Foster's criticism that:

Research to date has concentrated on individually exploring one of these variables, typically without controlling for the effects of other $N-1$ variables.[39]

The results of the regression analysis are presented in Table 2.

Table 2. Regression of Absolute Forecast Error on Independent Variables

Regression equation[a]

$$\begin{array}{lllll} \mathrm{AFE}^{b} = 0.8565 & + 0.0008T & + 0.0071S & - 0.7468H \\ \quad (0.733) & (2.143)^{*} & (0.851) & (2.874)^{**} \\ \quad - 0.3086I1 & + 0.0215I2 & - 0.0730I3 & + 0.2801E \\ \quad (1.081) & (0.075) & (0.272) & (2.063)^{*} \end{array}$$

$R^2 = 0.2725$
Adjusted $R^2 = 0.2230$
F-ratio = 5.5105**

[a]t-statistics are shown in brackets.
[b]A lower AFE represents a more accurate forecast.
*Significant at $P<0.05$.
**Significant at $P<0.01$.

The results of the regression were consistent with hypotheses 1, 3 and 5. The longer the forecast horizon, the less accurate was the forecast ($P<0.05$). In addition, the forecasts for firms with an operating history were more accurate than for those without an operating history ($P<0.01$). Furthermore, the greater the change in economic conditions between the period being forecast and the period before the publication of the forecast, the less accurate was the forecast ($P<0.05$). However, firm size and industry membership were not related to forecast accuracy.

It is interesting to note that the negative relationship between firm size and forecast error found in the bivariate analysis (see Table 1) did not emerge in the multiple regression analysis. Comparisons of more restrictive models with the full models showed that this relationship was largely driven by the "operating history" variable.[40]

Discussion and Concluding Comments

This study examined the relationships between company, industry, general economic and forecast characteristics, and earnings forecast accuracy. To deal with Foster's (1986) criticism of the reliance on bivariate statistics in previous studies, this study uses a multiple regression model to assess these relationships.

It was found that the longer the horizon of a forecast, the less accurate the forecast tended to be. This may be explained by the greater inherent uncertainty associated with longer forecast horizons. Where a forecast is for a period which is far removed from the time when the forecast is made, there is little information available to guide the preparation of the forecast. Another explanation for the negative relationship between forecast horizon and forecast accuracy has been advanced. Forecasts which are generally accurate when initially prepared may be discounted because of inclusion in the prospectus. This may be done because a forecast which proves to be too high may adversely affect the reputation of the company and its advisers.[41] The discount rate used may vary directly with the forecast horizon. Harford observed that:

"Having arrived at a forecast that is as realistic as possible and that is approved by all concerned, a contingency discount is then applied to this realistic forecast to produce the figure that will actually be used in the prospectus. The size of the discount will be governed by how much uncertainty there is over the achievement of the profit forecast (which in turn is primarily determined by the nature of the company's business and how much of the financial year has elapsed by the time of the flotation) and by the caution of the directors and the sponsors of the issue; the normal range is 7½ - 10%."[42]

Another interesting finding was that firms with an operating history, on average, provided more accurate forecasts than firms without an operating history. Berlinger and Robbins provided indirect theoretical support for this by arguing that:

"There may be circumstances in which management is unable to develop assumptions that reflect expected results. If the product is new or the industry just evolving, for example, management may not be able to estimate future results. In such start-up situations it is often difficult, if not impossible, to estimate the timing of the start of the revenue stream and the rate of increase in revenues. There may simply be no track record or comparable sales history to use as a basis."[43]

Companies which do not have operating histories but which nevertheless provide earnings forecasts, may be providing forecasts of inferior quality.[44] The present study finds evidence which suggests that in using earnings forecast information in prospectuses, one must differentiate between firms with and those without operating histories. Users may have to place less reliance on forecast information for the latter group of companies.

An association between changes in economic conditions and forecast accuracy was found in this study. Larger changes in economic conditions are associated with less accurate forecasts. Forecasts made in the context of particular economic conditions will be inaccurate if subsequent conditions differ from the earlier conditions. This is consistent with Porter's argument that "significant fluctuations in economic conditions ... will compound the problems of making accurate forecasts."[45]

This study found no significant relationship between firm size and forecast accuracy, after other predictor variables were controlled for. The bivariate analysis supported a negative relationship between firm size and forecast error. However, the multivariate analysis showed that this relationship was driven by the presence of operating histories for forecasting firms. Larger companies may be associated with more accurate forecasts because such firms tend to have more established "track records". Forecast accuracy for companies differing in size but not in operating history does not vary significantly.

In this study, the accuracy of earnings forecasts produced by manufacturing, farming, and investment and property companies was compared with the accuracy of forecasts produced by other companies. No significant differences across industries was found.

There are several limitations associated with this study. First, although steps were taken to ensure that definitions of forecast and actual earnings were consistent, the accounting policies adopted in calculating forecast and actual earnings may still be different. This is because the forecast of earnings is usually accompanied by only a brief statement of assumptions used in its preparation. Second, operating history was measured by a categorical variable, although the length of operating history may also be related to forecast accuracy. Third, the definition of industry membership was crude. More refined distinctions between industries may demonstrate that industry membership is in fact related to forecast accuracy.[46] As industry membership can be defined at many different levels, from very broad definitions to very narrow ones, it appears inevitable that definitions will be determined to some extent by the availability of data. Nevertheless, there is a need for greater theoretical development on the relationship between industry membership and forecast accuracy. In particular, future research should focus on ascertaining the characteristics of particular industries which may account for differences in forecast accuracy. Finally, the predictor variables included in this study represent only a subset of the variables which have been suggested as determinants of forecast accuracy. In particular, there is evidence that firm risk, as measured by the earnings variability of the firm, is related to forecast accuracy.[47] Theoretical and practical difficulties precluded the inclusion of this variable in the present study.[48] Omitted variables can result in biased parameter estimates for the variables which are included in a particular study.

Appendix 1. Descriptive Statistics for Continuous Variables (n = 111)

Variable	Min.	Max.	Mean	sd.
Absolute forecast error (percent)	0	424	100	111
Forecast horizon (days)	20	1 295	401	269
Firm size ($million)	1.2	14 620.0	292.8	1 950.9
Absolute change in GDP growth (%)	0.01	2.75	1.01	0.72

Appendix 2. Summary Information on Distribution of Categorical Variables (n = III)

Variable	No. of forecasts
Industry membership	
Manufacturing	23
Farming	26
Investment and property	34
Other	28
Operating history	
With operating history	70
Without operating history	41

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21. Dev and Webb, op. cit., 26-39.
22. Porter, op. cit.
23. There are no public-listed utility firms in New Zealand.
24. E. Carew, *New Zealand Money Revolution* (Wellington: Allen & Unwin/Port Nicholson Press, 1987); R. Douglas and L. Callen, *Toward Prosperity* (Auckland: David Bateman, 1987).
25. As a fairly large proportion of the companies which are not in the manufacturing and farming industries are investment and property companies, these companies are differentiated from other companies. The activities of investment and property companies tend to be more speculative than the activities for other companies. Combining them with other companies may hide an "industry effect" in forecast accuracy.
26. McDonald, op. cit.
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33. A hypothetical example will illustrate this. A forecast for a period ending December 31, 1987 will encompass the October 1987 stock-market crash and the subsequent downturn in the NZ economy, whereas a forecast for the period ending September 30, 1987 will not. If "year of forecast" is used, both will be categorized under the 1987 forecast year.
34. S.9(1), First Schedule, *Securities Regulations 1983*.
35. Subject to omissions in the NZ Stock Exchange Annual Reports, these represent all prospectuses for new issues of equity securities issued over the period of the study.
36. There is generally a lag of several months between the end of financial year and the publication of the annual report. Including forecasts for periods up to December 31, 1987 ensured that actual results, if available, would have been published at the time of the study.
37. Eighteen prospectuses included earnings forecasts for 12-month periods starting from the date of the prospectus. There were no actual earnings figures corresponding to these forecasts, and for these companies, any comparison between forecast and actual earnings becomes meaningless.
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45. Porter, op. cit., 13.

46. However, more refined definitions will make the classification of companies more problematic and will also require larger sample sizes. The limited population of public-listed companies in smaller economies such as New Zealand may preclude the latter.
47. Porter, op. cit.
48. Many of the companies included in this study did not have operating histories and therefore no historical financial information was available for these companies. Ferris and Hayes, who also excluded the "risk" variable from their study, referred to the lack of a "theoretical and practical basis" for measuring this variable. See Ferris and Hayes, op. cit., 28.

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Book Reviews

International Accounting and Auditing Trends (Volumes 1 and 2) *by Vinod Bavishi, Center for International Financial Analysis & Research, Inc., Princeton, NJ 08540, $295.00.*

The lack of sufficient data bases has long hindered effective empirical research in international accounting and auditing. The Center for International Financial Analysis & Research in Princeton, NJ, is an independent research group supported by universities, financial institutions, international accounting firms, and multinational accounting firms for the purpose of remedying this deficiency. The Center, headed by Vinod Bavishi, maintains large data bases of financial information drawn from the annual reports of more than 10 000 companies. The present volumes, approximately 2 000 pages, represent findings from an examination of the annual reports (approximately 5 000) from 24 countries and the results of an extensive survey of the practice of public accounting throughout the world.

Volume 1 consists of 14 chapters divided equally between international accounting trends and international auditing trends. This volume ends with four appendices consisting of guides for preparing annual reports for industrial companies, commercial banks, and insurance companies, and an accounting lexicon which gives common accounting terms in English and eight other languages. Volume 2 consists of four additional appendices that tabulate the survey of international accounting firms, their clients, and audit fees.

The first seven chapters of Volume 1 consist of various studies of accounting standards or methods followed by industrial firms from these countries. Comparative data are provided in 14 areas of accounting, including costs bases of financial statements, consolidation practices, accounting methods for long-term investments, accounting for goodwill, inventory valuation methods, and depreciation methods. This study is especially concerned with the effects that differences in these areas of international accounting have had on the valuation of assets and liabilities and the determination of income and expense.

Following an introduction and description of the research design in Chapter 1, reporting and disclosure practices are analyzed in Chapter 2, with the objective to find the extent to which industrial companies have achieved an international harmonization of financial disclosures. In 16 issues concerning basic financial statements and 10 for supplementary disclosures, the study shows the most significant differences to be in the reporting of subsidiary company information and in the disclosure of segment and geographic information, R & D costs and capital expenditures, and earnings per share data. At the same time, strong evidence is provided not only of improvement in financial reporting practices, but also of increased adherence to international accounting standards.

Chapter 3 considers the effects of differences in international accounting standards on the valuation of assets and income determination of banks and insurance companies. In its analysis of financial statements, this study concludes that, unlike industrial companies, in which more variations may be seen in accounting standards than in financial reporting practices, banks and insurance companies tend to show greater differences world-wide in reporting practices than in standards.

Interim financial statements published internationally by industrial companies are the subject of Chapter 4. Reports from Canadian, Japanese, and U.S. companies are found generally to provide the most information, and reports by Commonwealth companies disclose the least. In the interest of harmonization, a proposal is made for a model interim report, which would be issued quarterly and contain several leading features, including an extensive income statement, key accounts from the balance sheet, and a lengthy discussion of the operating results.

In the final study of international accounting trends (Chapter 5), the researchers consider the major difficulties they encountered in analyzing international financial statements. These issues are separated into four categories: administrative problems, problems with procedural accounting matters, differences in accounting data, and difficulties in merging fundamental accounting data with information generated by capital markets. Chapter 6 and 7 present issues and answers as well as a summary and conclusions concerning international accounting trends. Finding it easier to construct industry averages within a region or world-wide than across national boundaries, the researchers urge the development of a "practical framework" for "a comprehensive global industry analysis system," and make several recommendations to that end.

The next seven chapters on trends in international auditing present data on global competition in the accounting services industry. In contrast to the prior chapters, which focus on accounting reporting practices, this section concentrates, not on auditing standards and practices, but on international accounting firms and competition among them, especially on recent trends in audit fees and auditors' reports.

After an introduction in Chapter 8, Chapter 9 compares the organizational structures of the 16 leading international accounting firms (the Big Eight and Small Eight), in terms of the size, location, and staffing of offices world-wide. The study reports that these firms have offices in 152 countries and territories, with more partners in North America than in any other region. In addition to ranking the firms and evaluating their recent growth, the study analyzes the effect of the 1987 merger of Klynveld Main Goerdeler (KMG) and Peat Marwick Mitchell & Co. (PMM) on international and regional rankings, and examines other mergers completed by local offices of the leading accounting firms.

Chapters 9 and 10 present a comparative analysis of the client base of the 16 firms. Client profiles are constructed according to several criteria, including the size and number of clients audited, the countries and regions in which they are located, and the total sales or assets recorded. All of the Big Eight firms, according to the study, are highly involved in the banking sector, with insurance, financial services, utilities, and mining and petroleum firms listed as other major clients. The study finds, however, that the three leading audit firms vary in their involvement in the broad industry classifications, and that the 16 largest firms tend to concentrate on different industry strengths within the United States compared with other countries or regions.

To examine audit fees, an analysis was made of client companies in a group of nine countries: Australia, Hong Kong, India, The Irish Republic, Malaysia, New Zealand, Singapore, South Africa, and the U.K. The study (Chapter 11) attempts to determine, among other questions, the characteristics shared by client companies that influence the amount of audit fees paid to external auditors. It finds that companies in the capital goods industry pay the highest audit fees, and companies in the financial services, utilities, and transportation industries pay higher fees than domestic companies in the same industry, and that companies in industrial countries pay higher audit fees than companies in the same industry in developing countries.

In the only study of auditing standards, Chapter 12, a study of auditors' reports indicates several differences in the form and content of reports prepared in 24 leading countries. These differences appear in such areas as the addressing of the report, the identification of specific statements audited, the terminology used in unqualified audit opinion, and the references made to local auditing standards. The researchers found that auditors in Australia, Canada, and Japan appear to issue qualified audit opinions more frequently than auditors in other countries, and that factors such as industry sector, company size, multinational status, and fiscal year-end data may affect the time needed to complete the audit process.

Chapter 13 presents guidelines for the evaluation of the strengths and weaknesses of international accounting firms relative to the opposition. Treating several issues under the headings of personnel, generation of revenues, and external environment, the exhibits in this chapter draw on a variety of sources, including data cited previously, informal interviews with experts in international auditing, and the results of a questionnaire submitted to the leading auditing firms. Although acknowledging that the conclusions reached here may be used in the development of "competitive strategies," the researchers state that their intent is not to provide a "cookbook for policymaking." The chief purpose of the study, rather, is to identify the aspects of an international auditing operation that need regular monitoring.

In considering the implications of their analysis of auditing trends in Chapter 14, the researchers find both 'obstacles and opportunities' for the continued growth of international auditing firms. The obstacles include legal liability for suits initiated against the accounting firm by the shareholders and lenders of failed client firms; technological change and its impact on audit fees, particularly as computers reduce the time needed to complete an audit; and mergers and acquisitions within the client base, marked by the tendency of a merged company to employ only one auditor, even though several may have been engaged by the firms before the merger.

The opportunities in the development of international auditing, as seen by the researchers, include progress toward harmonization of accounting and auditing standards made by European Community (EC) member nations; the global integration of capital markets, requiring issuers of securities to prepare annual reports for international users; and increased interest in emerging capital markets, requiring issuers of securities to prepare annual reports for international users; and increased interest in emerging capital markets, as shown by the introduction in developing countries of new mutual funds.

Four appendices complete the first volume of *International Accounting and Auditing Trends*. The first three offer extensive guidelines for the preparation of annual reports for multinational industrial companies, multinational commercial banks, and multinational insurance companies. Presented in the form of checklists of a wide range of categories, the guidelines were drawn from data appearing in the 1987 annual reports of 300 international companies; examples thought to represent good disclosure are also included.

In a valuable contribution to researchers and practitioners, the fourth appendix is a 150-page lexicon of accounting and auditing terminology used in eight languages (Dutch, French, German, Italian, Korean, Japanese, Portuguese, and Spanish) with translations in English, as well as translations of English terms in those languages.

Four other appendices comprise all of Volume 2 of *International Accounting and Auditing Trends*. They consist of a global chart of the partners of the 16 international accounting firms listed by region, country, and city; a global list of the clients of international accounting firms by country; a list of audit fees by country; and summary profiles of the 16 firms, listing the offices and partners by region and country and the total clients audited by region and country, and by interest group.

The studies and tabulations contained in *International Accounting and Auditing Trends* are valuable contributions to the international literature. A student, faculty member, or practitoner can gain an insight into reporting practices and the accounting profession internationally by spending a few hours studying these volumes that cannot be obtained elsewhere. The work is undoubtedly valuable to practitioners in international accounting practices, to financial officers in multinational corporations, and to financial analysts. University libraries will want to have a copy of the study.

This study does, however, identify the difficulties of obtaining data for empirical research in international accounting and auditing. Most of the data presented in these volumes are based on publicly available information. This limits the types of research than can be done. For example, the conformities and differences in international financial reporting practices can be studied because the data may be obtained from public annual reports, but the study of international auditing standards and practices is limited to the one publicly available area of auditing standards, the auditors' report. The Center was given competitive information from the international firms as a result of their intense interest in the results. Perhaps because of its relations with these firms, the Center will be able to expand its data base, especially in the area of auditing standards and practices, in its future editions, the next of which is scheduled to be published in October 1990.

Belverd E. Needles, Jr.

The Proceedings of the Sixth International Conference on Accounting Education *edited Kyojiro Someya, Greenwood Press, Inc., Westport, CT, 1988, 898 pp., $75.00.*

Handsomely hardbound and fully indexed by subject, the professional appearance of *The Proceedings of the Sixth International Conference on Accounting Education*, edited by Kyojiro Someya, serves as a reminder to the 542 conference participants from 38 countries of the excellent meeting they experienced in Kyoto on October 7 – 10, 1987. Readers of *The Proceedings* will see that the main theme of the conference, Accounting Education and Research Toward the Promotion of International Understanding of Economic Progress, is directed to achieving a specific goal, yet it is sufficiently broad to accommodate the subject covered at two plenary, eight concurrent, and five group sessions.

The Proceedings is somewhat unusual. It serves as a historical account of almost all that was officially communicated at the meeting by dignitaries and keynote speakers as much as it serves as a depository for the technical papers presented.

At the outset, to identify the features of *The Proceedings* which make it a valuable research tool for those who are serious about pursuing the international dimensions of accounting education seems appropriate. *The Proceedings* contain

(1) the entire text of opening comments and keynote presentations,
(2) a list of conference participants,
(3) 79 technical papers varying from seven to 12 pages and containing as many as three pages of references,
(4) the transcript of a panel discussion of esteemed educators on the exchange of accounting education and research, and
(5) a topical index of all papers presented.

Keynote Addresses

Each of the three keynote speakers approached the conference from a different perspective. Seigo Nakajima outlined the rationale for the conference — to address an urgent need for mutual understanding and mutual respect among accounting educators and research scholars throughout the world. The program committee sought and was successful in gaining the participation of representatives from a large number of countries, particularly developing countries.

Gerhard Mueller sees a growing acceptance of efforts to internationalize the accounting profession on many fronts. However, he believes that the emergence of accounting toward world status has not yet been achieved. Practitioners, Mueller believes, appear more advanced in this regard than those in academe. He provides and analyzes four approaches to the development of accounting; each seeks a higher level of refinement and abstraction in its search for recognition as a true world discipline. He concludes on a very positive note; the quest for world discipline status for accounting strengthens the whole profession without requiring components of the whole to abandon their local identities.

The European perspective on the international harmonization of accounting and reporting was examined by André Zünd; he concentrates on developments since 1970. Western Europe, Zünd states, is still divided into two parts: the European Economic Community (EEC) countries and the European Free Trade Association (EFTA) countries. Accounting strategies of non-EEC countries are identified and the author concludes by reciting 10 lessons learned from the European experience in international accounting.

Technical Papers

Seventy-nine papers were presented by individuals from 27 countries. Many of the papers were by individuals recognised for their expertise in international accounting; others were by those commencing their investigation of this expansive and fertile area. *The Proceedings* provides evidence of the rich opportunity the conference offered scholars from around the world to come together, share their research and ideas, and be stimulated by, and provide encouragement to, their colleagues.

The papers are gathered into eight categories in *The Proceedings*: four deal with education and are discussed first; the balance relate to the public functions of accounting, managerial functions, other international accounting issues and a potpourri of selected topics.

Sixteen papers appear in the first category, Accounting Education in Different Social – Economic Environments. All but two of the papers examine the general accounting curricula within their respective geographical environments; the remainder discuss audit education. Eight of the papers deal with the Far East; half of these explore various aspects of accounting education within China. Third World countries are examined in three papers, with the remainder spread among Europe, the Middle East and North America. As might be expected, the political, social, and economic influences within the various environments are explored; the influence of professional associations and the banking community as developmental agents are most frequently discussed. Thirteen papers are archival in nature and generally present the author's opinions on both the status and direction of the particular issue(s) addressed. Eight of the papers offer empirical evidence to support the positions of the authors, some to a much greater extent than others, thus some papers are classified into more than one methodological strategy.

The first three group discussion sessions also relate to accounting education. Of 11 papers, five examine classroom activities: two examine the utilization of personal computer and video instructional technologies to advance the mastery of students' skills and analytical abilities, a third examines a methodology to identify the critical incidents of teaching behavior that might be characterized as effective within a specific culture, and the last two examine the international accounting curriculum in universities in the United States. Two other papers examine the present and future state, respectively, of accounting education in developing countries. Accounting education, these papers relate, must be viewed within the perspective of the country's entire educational system. In fact, growth in the educational and financial infrastructures must be balanced with advancement made elsewhere in the society. The topics addressed in the four remaining papers are diverse. From a methodological perspective six papers could be classified as empirical, with the balance being archival.

The 15 papers contained within the category Functions of Accounting in Different Social, Economic, and Legal Environments should be of great interest to the experienced as well as the novice international research scholar. In large part this is because the authors provide insights into the public functions of accounting in different political, social and economic environments from both cross-sectional and longitudinal perspectives. For example, accounting in China, Poland, Hungary, and Yugoslavia reflects, to some degree, the respective countries' accommodation to both internal and external forces as each searches for greater economic efficiencies. The vehicles employed in these countries vary and deserve the attention of readers. Even though only three of the papers are empirical in nature, the timeliness and wealth of archival evidence presented in the remainder of the papers provide a rich source of material from which to expand research efforts in this area. With the exception of China and Japan, the primary focus of the presentations is in Europe.

The managerial aspects of international accounting appear in the section, The Role of Accounting Education and Research in Industrial Development and Hi-Tech Environments. The 13 papers and two abstracts cover a range of subjects. Once again, an archival research strategy exceeds an empirical methodology by almost a two to one margin. In one paper, for example, of five budgeting variables examined by CFOs of American and Japanese corporations, a significant difference between the two groups is identified on only two variables indicative of firms' objectives — growth and market share. Behavioral contingency theory, a theory that emanates from social psychology, is the subject of two papers, one at the macro level and one at the micro level. One explores the theory in terms of developing countries using the Farmer – Richman model and one assessing organizational effectiveness. The measurement of soft behavioral – cultural variables, the authors note, is no less important than hard economic – financial measures of performance. Four papers focus on the influence that computer technology has had on managerial accounting in the classroom. Two of the papers survey different populations but draw similar conclusions. Although regional differences are noted, student access to microcomputers equals or exceeds that to mainframes, spreadsheets are the predominant application, and

BASIC is the predominant computer language learned by students. The third paper is a case study of the computer usage at one university, given the evolution of computer technologies. The fourth paper also focuses on students within one school and concludes that students achieve a greater understanding of accounting material and have higher test scores when assignments are performed on the microcomputer. The remaining papers treat such diverse subjects as the outsourcing (commonly the make-buy) decision in the Canadian auto industry and the relationship between managerial accounting and industrial development in China and India respectively.

The category Recent Developments in International Standards and Disclosure Requirements contains 13 papers. Unlike the previous categories, two-thirds of these papers contain empirical evidence to support their positions. Approximately half of the papers deal with harmonization of accounting standards; most of the remaining papers empirically examine the magnitude of accounting disclosures from British, Far Eastern, and U.S. viewpoints.

Four of the papers on harmonization take a world-wide perspective of the subject, and two view the subject through the window of single countries. To assist the process of harmonization of accounting practices, the author of one paper, after partitioning 64 countries based upon their accounting practices, compares the results with a compartmentalization of these same countries based upon a discrimanent analysis which uses five environmental factors (economic, cultural, educational, legal, and political). His conclusion is that countries sharing the same accounting practices tend to have similar environmental factors and vice versa. This should be considered when establishing International Accounting Standards. A similar study differentiates eight countries into four similar accounting practice groups, based on a subjective evaluation of five causal factors and 11 standardization elements; information for scoring was retrieved from a variety of sources including questionnaires and interviews. A survey of representatives of 62 IASC member countries by another researcher shows that respondents confirmed their non-involvement in the standard setting process of the IASC. However, the respondents refuted the contention that non-involvement in standard setting negatively affects standards implementation. Another author, after analyzing the international differences in the objectives of financial reporting and their impact on standards of financial accounting, advances five propositions related to the development of an international conceptual framework of financial reporting.

Given the variability existing among the accounting disclosures of companies in India examined by one author, he logically concludes that harmony within countries must first be achieved before harmony can be attained at a more global level. After stating that the importance placed on accounting disclosures increases as countries move toward capital market efficiency, the authors of another paper illustrate the diversity of accounting disclosure requirements of seven countries in the Far East; they close by cautioning accounting policy-makers within countries having less disclosures to elevate those levels if they wish their countries to play a greater role in capital markets. Using the annual reports of 100 large U.K.-based companies, one author states that company size is of greatest importance when explaining the voluntary adoption of disclosures proposed/recommended by the United Nations (UN) and the Organization for Economic Co-operation and Development (OECD); on average, company disclosures were less than half of the level recommended. Another author finds that accounting disclosures of U.S.-based multinational corporations (MNCs) exceed that required by the Financial Accounting Standards Board (FASB) and the Securities & Exchange Commission (SEC). However, a survey of these same entities reveals that nearly half of the respondents stated that their firms did not voluntarily disclose any information!

The fourth and fifth group discussion sessions are treated as a unit because they deal with selected topic papers on International Accounting and Accounting Education and Research. The former group contains four papers; the first two are empirical in nature and deal with developing countries. The first paper examines the changing complexion of the world's largest multinationals, with particular emphasis on the impressive gains being made by Third World multinationals; the second explores accounting for exchange rate changes by companies in developing countries. The second set of papers relate to China and offer the opinions of the authors on the nature of accounting (instrument versus management function theories), trends in accounting research, and the accounting regulation of joint ventures in China.

Four of the five essays in the second group of selected topic papers are archival and lack an orientation toward any specific country; one is a South African Case Study of Accounting Education. The papers cover such diverse areas as professional certification of accountants, the roles of professional groups in promoting a transfer of education and research to developing countries, and the functions of accounting examined through formally stated objectives, compared with the uses made of accounting by people, given the uncertainties they face as they perform actions within the contexts of their organization.

Panel Discussion

Five individuals noted for their contributions to international accounting education and research — R. Chambers, S.J. Gray, Y. Ijiri, G. Mueller, and V. Zimmerman — participated in a panel discussion entitled International Exchange of Accounting Education and Research — Past, Present, Future. Their comments, and the exchange which followed, were quite enlightening. Drawing on their own backgrounds, they shared thoughts on various topics. The focus of their remarks addressed such issues as not losing sight of the similarities among our systems instead of concentrating on the differences; developing a greater appreciation of the importance of culture in accounting; nurturing and strengthening the relationship among academic accounting organizations around the world; and reacting in our future teaching to the increasing internationalizations of accounting firms, financial markets and communication technologies.

Conclusion

To come full circle, it is appropriate to conclude with what Kyojiro Someya believes to be the outcome of the conference:

> 'it provided an opportunity for a person-to-person exchange of ideas and viewpoints not obtainable through the literature alone. Hopefully, it will serve as an impetus to an even greater flow of information resulting in better understanding and increased respect on an international level.'

This reviewer concurs with Someya. The editor and the program committee are to be commended not only for an outstanding conference but also for the speed with which *The Proceedings* was produced and distributed. It should be made a part of every accounting library.

Thomas A Gavin
Joseph Decosimo Professor of Accounting,
University of Tennessee,
Chattanooga, TN

INSTRUCTIONS FOR AUTHORS

1. Manuscripts should be submitted in triplicate to the Editor, Professor V K Zimmerman, The International Journal of Accounting, 320 Commerce Building (West), University of Illinois at Urbana-Champaign, 1206 South Sixth Street, Champaign, Illinois 61820, USA.

2. The language of the journal is English.

3. Text should be typed double spaced on one side of the paper. A 3cm wide margin should be left at both sides of the text, 4cm wide margins at top and bottom of page. There is no maximum length for contributions but authors should write concisely.

4. The title of the paper should be typed on a separate sheet and the author's name should be typed on the line below. The affiliation and address should follow on the next line. In the case of co-authors, respective addresses and affiliations should be clearly indicated. Correspondence, proofs and offprints will be sent to the first-named author unless otherwise indicated. All pages of the manuscript should be numbered.

5. Each manuscript should be accompanied by a brief (maximum length 100 words) synopsis of the article explaining its international significance.

6. The abstract should be followed by no more than 6 key words for indexing. These should be in alphabetical order, characterising the scope of the paper.

7. The paper should be reasonably subdivided into sections and, if necessary, subsections.

8. All headings should be placed on separate lines.

9. A shortened title should be given which should not exceed 48 letters and spaces.

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[1] William A. Dymsza, <u>Multinational Business Strategy</u> (New York: McGraw-Hill, 1972), 49-53.
[2] Geoffrey Holmes, "Replacement Value Accounting." <u>Accountancy</u> (March 1972), 4-8.

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American Institute of Certified Public Accountants. <u>Accounting Research Bulletin No. 43</u>. New York: AICPA, 1953.
__________. "Financial Statements Restated for General Price Level Changes." <u>Statement of the Accounting Principles Board No. 3</u>. New York: AICPA, 1969.
Lorenson, Leonard and Paul Rosenfield. "Management Information and Foreign Inflation." <u>Journal of Accountancy</u>, December 1974, 98-102.
Revsine, Lawrence. <u>Replacement Cost Accounting</u>. Englewood Cliffs, N.J.: Prentice-Hall, 1973.

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Springer International

AIMS and SCOPE The Aims of *The International Journal of Accounting* are to advance the academic and professional understanding of accounting theory and practice from an international perspective and viewpoint. The *Journal* recognises that international accounting is influenced by a variety of forces, e.g. governmental, political and economic.
The *Journal* attempts to assist in the understanding of the present and potential ability of accounting to aid in the recording and interpretation of international economic transactions. These transactions may be within a profit or non-profit environment. The *Journal* deliberately encourages a broad view of the origins and development of accounting with an emphasis on its functions in an increasingly interdependent global economy and welcomes manuscripts that help explain current international accounting practice, with related theoretical justifications and identify criticisms of current practice. Other than occasional commissioned papers or special issues, all the manuscripts published in the *Journal* are selected by the editors after the normal refereeing process.

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The International Journal of Accounting

International Accounting Research: The Global Challenge

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Key words: Culture and accounting; Environmental influences on accounting; International accounting; Research methodology

Abstract: *The purpose of this paper is to show that the international dimension of accounting is fundamental to accounting research. In a world of growing international relationships of a political, social and economic nature it has become imperative to recognize the importance of international accounting. A global environmental and cultural framework are proposed as a basis for identifying international forces for change and their impact on accounting systems and practices at the national level. From this analysis, 21 research topics are proposed to provide the international accounting researcher with a smorgasbord of choice. Finally, some international perspectives on research methodology are offered for consideration.*

The international aspects of accounting issue a global challenge: not just to researchers in the United States but also to those in Europe, the Middle East, Africa, Russia, China, Japan, Asia, Australasia, South America and elsewhere.

In a world of growing international relationships of a political, social and especially economic nature, it has become imperative to incorporate an international perspective into accounting; not as a supplement to but as an integral part of our thinking, our research, our teaching, and our practice.

Environmental diversity and change affecting national human cultural and behavioral differences have raised a variety of new and pressing challenges for international accounting research. In particular, the growing internationalization of markets and corporations coupled with the stimulus for economic integration and development pose many problems which have yet to be explained and resolved.

In this dynamic context, it is time for accounting researchers to reassess their research priorities. If research is to be useful it needs to be directed to relevant issues and there are many issues that have a significant international dimension. It is thus important to gain an international perspective; and to appreciate the perspective of others located in different part of the world.

Accepted for Publication: November 10, 1989

International Accounting: Complexity and Uniqueness

To know what we mean by "international accounting" as a field of study is important. For research to be labelled "international accounting" the author suggests that it should be concerned with comparisons and classifications of accounting systems and practices internationally, issues relevant to the management and control of international business operations, issues relevant to international investment, both direct and portfolio, or international accounting harmonization and standardization. Accounting research is not international just because it is conducted in another country, e.g., a study of stock market reactions to earnings announcements in Hong Kong. When such research is extended to consider the comparative dimension and the international issues arising, such as the reasons for differences in information efficiency across countries, it becomes international.

Just as in the domestic context, international accounting encloses the fields of financial accounting and reporting, financial management and treasury, management accounting, information systems, and auditing.[1] International accounting also encompasses the historical, political, social, institutional, and organizational dimensions. It also relates to both the private and public sector. What distinguishes international accounting is, first, that it is more complex than accounting in the domestic context, e.g., problems of inflation accounting, consolidation, transfer pricing, and performance evaluation assume a new dimension when considered on an international basis. Second, it is distinguished by its uniqueness in a number of respects, e.g., problems of foreign currency accounting and geographical segmental reporting are unique to international business.

Why is international accounting a significant area of research interest and why is it of growing importance? The reasons can be found in the global impact of growing international business and financial relationships occurring in the context of international differences in human culture and behavior and their institutional consequences.

The Global Environmental and Cultural Context

International forces for change are at work in a cultural and behavioral context where differences between nations and societies are often significant. Such differences in culture patterns have emerged over long periods of time and have often maintained their stability over many generations. How does this happen and how does change occur? The author suggests, following Hofstede,[2] that the origins of culture, i.e., value systems shared by major groups of population, can be found in a variety of factors affecting the physical environment (see Fig. 1).

Societal values lead to the development and maintenance of institutions in society which include family patterns, social class structures, the political system, the legal system, the financial system, the nature of business ownership, and the education system. These institutions, once developed, tend to reinforce societal values and the factors giving rise to such values. Change at the national level

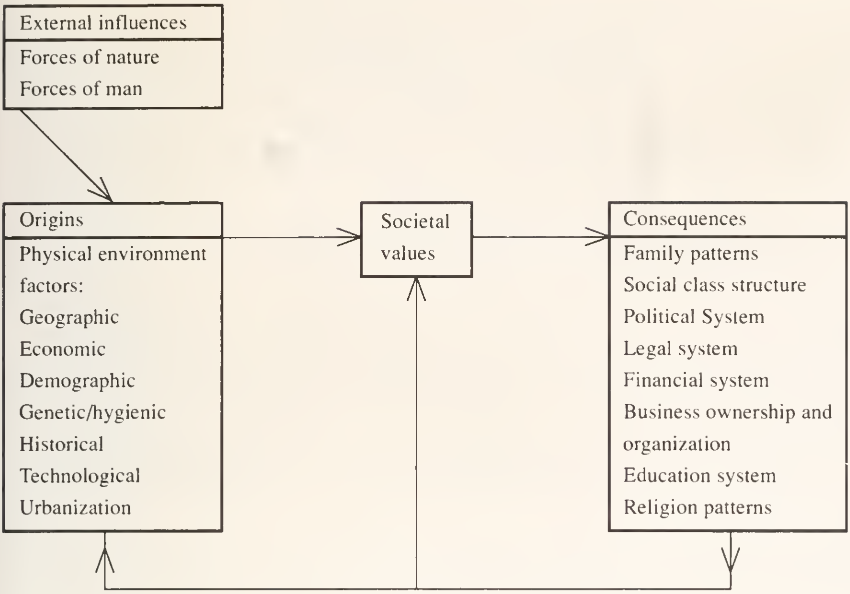

Fig. 1. The Development and Maintenance of Culture. (Source: Hofstede.[2])

occurs mainly as a result of external forces, through the forces of nature or the forces of man. As regards the latter, international trade and investment (and multinational corporations) are potent factors together with, of course, the major upheavals of war and colonization. In addition, scientific discovery, i.e., new technology, is a major factor for change. Such external forces affect societal values primarily via the physical environment. They may also have an impact on the functioning of institutions in the short term by imposition. Whether or not societal values will change is, however, more likely to be the result of longer-term shifts in environmental conditions.

Culture, or societal values, at the national level may be expected to permeate through to organizational and occupational subcultures though with varying degrees of integration. If accounting and accountants can be incorporated in this framework with accounting systems and practices influenced by and reinforcing societal values, as proposed by Gray,[3] then not only may we understand why there are differences between national systems of accounting, applied in a variety of contexts, but we may also appreciate the potential impact of changes arising from international factors. A model of this process of accounting change and development is outlined in Fig. 2.

Given this framework of analysis, we can see why international accounting research is fundamental to our understanding of accounting and its development in any single country, whether it be the United States, United Kingdom, France, Japan, or Brazil. Thus the essence of my thesis is that national accounting is a subset of global accounting, an inevitable consequence of the forces for change at work in the world today.

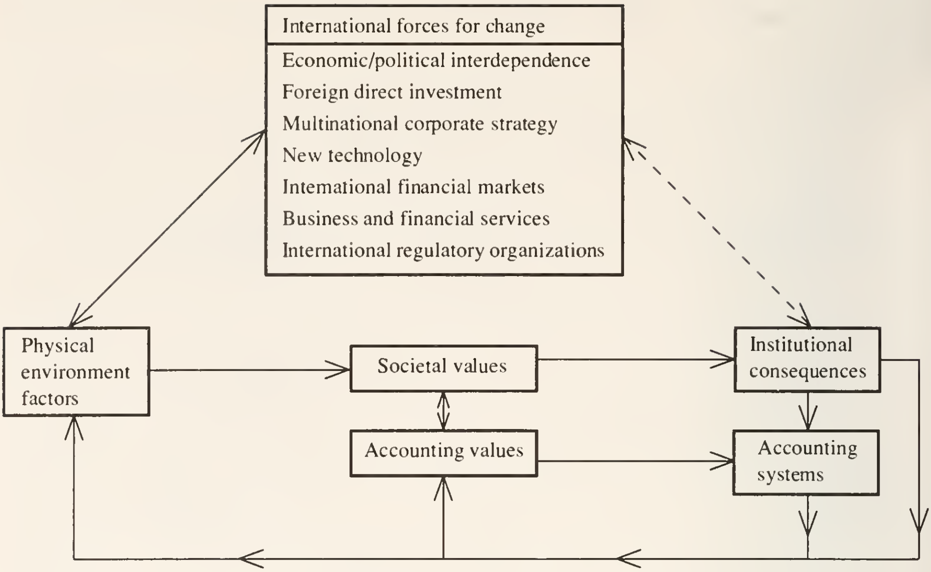

Fig. 2. Change and Development of Accounting Values and Systems Internationally

International Forces for Change

There are a number of important international forces for change, including international economic/political interdependence, foreign direct investment and multinational corporate strategy, new technology, international financial markets, the growth of business services, and the activities of international regulatory organizations.

International Economic and Political Interdependence

Although basic distinctions can be made between East and West, i.e., centrally planned socialist countries and western capitalist countries, and North and South, i.e., developed and developing countries, there are a variety of organizations working to expand international trade and investment. Dramatic changes are occurring at the political level, giving rise to economic changes, e.g., "Perestroika" in the USSR and the hitherto "open door" to China, which are restructuring the landscape of international business. Further, the growing trend towards the deregulation of markets and the privatization of public sector corporations in many developing as well as developed countries has opened new opportunities for international investment and joint ventures.[4]

Economic groupings, such as the European Community (EC) or European Common Market, have been a major influence in promoting economic integration through the free movement of goods, people and capital between countries. To promote economic integration, the EC has embarked on a major program of harmonization including measures to co-ordinate the company law, accounting, taxation, capital market and monetary systems in the EC. The current goal of removing all non-tariff barriers by 1992 may prove to be elusive. Nevertheless, the EC has emerged as a major economic and, to some extent, political force in recent years, with a membership of 12 nations and a potential market of 320 million consumers.

A variety of other economic and trading groups can be found, for example, in Latin America, (LAIA), Asia (ASEAN), Europe (EFTA), Africa (ECOWAS) and Eastern Europe (COMECON), which operate with differing degrees of co-operation and effect so far as economic integration is concerned.

International organizations, such as the United Nations (UN), are also deeply involved in the development of international business on a global scale. The UN is responsible for the emergence of organizations such as the World Bank Group, the International Monetary Fund, the UN Conference on Trade and Development, the Conference on the Law of the Sea, the General Agreement on Tariffs and Trade (GATT), and the Economic and Social Council (ECOSOC). ECOSOC includes a Commission on Transnational Corporations (UNCTC) designed to promote an effective international framework for the operations of transnational corporations and to monitor the nature and effects of their activities. The UNCTC is involved, among other things, in initiatives to develop international standards of accounting and reporting.

The Organization for Economic Co-operation and Development (OECD), in contrast to the UN, is focused mainly on the development of the industrialized countries of the world. The major objective of the OECD is to foster international economic and social development and to this end a Code of Conduct, including information disclosure guidelines, has been issued relating to the operations of multinationals to encourage them to develop positive relationships with host countries.

Foreign Direct Investment and Multinational Corporate Strategy

The activities of multinationals and their economic significance have continued to grow in the 1980s despite a slowing of world economic growth, increasing instability in exchange rates, interest rates and inflation, and growing protectionist tendencies. Multinationals have been major forces for change. New forms of business relationships have emerged, including strategic alliances and joint ventures among multinationals and subcontracting arrangements between multinationals and corporations in developing countries. The relative importance of multinationals from different home countries has changed. The importance of US multinationals has declined in the 1980s whereas that of Japanese and Western European multinationals has increased.[5] Japanese multinationals have established themselves as manufacturers in the United States and Western Europe, and Western European multinationals have also made large investments in the United States.[6] On the other hand, foreign investment by US multinationals has expanded at a much slower pace than in the past, with a concentration on improving competitiveness in their home market.

The United States has now become the largest host country for foreign direct investment (FDI), with European and Japanese multinationals bringing a major shift towards the United States and away from developing countries.[7] A major attraction seems to have been the size and the better prospects of the US economy and the potential access to US technology. Japan has emerged as a major source country for multinationals. Western Europe, on the other hand, has become the world's largest source of FDI. In the developing countries, FDI has declined in Latin America, but China, with its "open door" policy, has been one of the largest recipients.

Although the giant multinationals account for a large share of the world economy, smaller companies are now just as likely as large ones to invest abroad.[8] However, the 600 largest multinationals – the "billion dollar club", so called because sales exceed $1 billion – still account for a fifth of the world's total value added in manufacturing and agriculture. Multinationals account for well over three-quarters of their home country's trade flows. Intrafirm transactions by multinational account for between 30 and 40 percent of their home country's trade. However half of all the world's companies investing abroad are small and medium sized. The 1980s have also seen an increasing number of multinationals from developing countries, involved mainly in the extractive and mineral-processing industries, and from centrally planned socialist countries with state corporations expanding into services and especially marketing and trade.

Multinationals have responded to the slow growth and uncertain economic conditions of the 1980s by developing global strategies to strengthen their position both in their home markets and in the major developed market economies, especially the United States. More specifically, there has been a trend towards concentrating on core and related business activities and towards diversifying geographically. Product consolidation has thus been preferred to product diversification. As a major part of this strategy, there has been a dramatic wave of international mergers, acquisitions, strategic alliances, and joint ventures with corresponding divestments, demergers, and management buy-outs.[9] Most of this activity has involved US and UK multinationals, but Japanese multinationals are now taking an increasing interest. In addition, there has been a trend towards cooperative arrangements in respect of both research and development and the implementation of new technology.

In the developing countries, multinationals have reacted to the general worsening of economic prospects and the greater instability of such countries by reducing foreign investment and increasingly preferring non-equity arrangements (such as licensing agreements, management contracts, franchising, turnkey contracts, and international subcontracting) and joint ventures to reduce their exposure to business and political risks.

Another major trend has been the shift in investment from manufacturing into services. Major investments by multinationals in accounting, banking, finance, insurance, trading, advertising, and other business services have occurred mainly in the developed market economies.

New Technology

A major feature of the 1980s has been the great extent of technological change and organizational innovation. The dominant force for change has been information technology, which has affected all aspects of production, shifting industrial innovation towards computer-integrated manufacturing processes.[10] At the same time, there have been innovations in the management of materials and people, including Just-In-Time (JIT) procedures, with the emphasis on flexibility, co-ordination, and quality. The new organizational approaches have required changes towards a greater decentralization of decision-making, with an emphasis on co-operation rather than the exercise of authority. Multinationals have been at the forefront of these developments, which have led to substantial cost reductions and improvements in efficiency. They are also setting the future direction of technological change in that a small number of multinationals account for a major share of the world's production of telecommunications, semiconductors and computers.

International Financial Markets

The scale of interactional financial activity has increased even more strongly in the 1980s. A global capital market is in the process of being formed with a high degree of integration between national centers. This is the result of the erosion of national barriers in financial markets arising from the growing deregulation of national markets, listings of foreign securities, innovations in financial instruments (including floating rate notes, Eurocommercial paper, loan sales, interest rate swaps, and currency swaps) and improved communications through the use of information technology.

International equity transactions amounted to over $1200 billion in 1988 and the stock of cross-border equity holdings to approximately $640 billion. Motivations for investors include the benefits of international diversification and for companies, public sector organizations and governments, access to capital, often at a reduced cost, as well as other promotional benefits. In the developed equity markets, Japan has now overtaken the United States in terms of market capitalization, with Tokyo at $3.8 trillion compared with Wall Street's $2.5 trillion. The US market now accounts for less than a third of world market capitalization compared with 53% in 1980.[11] Another significant feature of the 1980s has been the growth of the emerging markets especially Taiwan, Malaysia, Brazil and India. More than 500 companies are listed on foreign as well as their home stock exchanges, with more than 150 companies listed on three or more foreign centers.

International investment in banking and financial services has also grown dramatically in the 1980s and much more so than in other sectors. International banks and financial services companies have emerged as major multinationals. Multinational banks from Japan have expanded rapidly, reflecting Japan's economic success and its growing international creditor status. International lending is now increasingly taking securitized forms. The role of banks is changing and banks and non-bank financial intermediaries are becoming more and more alike.

The Growth of Business and Financial Services

The growing importance of investments in services is underlined by the fact that they now account for approximately 40 percent of the world's stock of FDI and approximately 50 percent of annual FDI flows.[12] In 1988, exports of services amounted to approximately $560 billion.[13] Finance- and trade-related flows have been the most important determinants of growth in the developed market economies and especially in the United States. Even China and the socialist countries of Eastern Europe have made service investments in the developed market economies, mainly as a means of giving trading and marketing support to their exports.

Not only a number of manufacturing and mining multinationals but also service multinationals are now moving towards the provision of integrated services. Most service multinationals are based in the developed market economies, with the main home country being in the United States. Japanese service multinationals are among the largest but they are mainly concentrated in the trading and banking sectors.

Accounting and auditing service multinationals provide examples of integrated activities including corporate finance and management consultancy as well as the traditional services. Such multinationals have the competitive advantages of access to multinational clients, experience of the standards required and the necessary professional expertise, and an increasingly world-wide brand image. At the same time, they have the location advantages of on-the-spot contact with their clients through their foreign associates, sensitivity to local culture, and the ability to adapt to local reporting standards and regulations. They are also able to exercise a co-ordination advantage through systems of quality control developed internationally. Interesting in this context are the recent mega-mergers agreed and proposed between the "Big 8" firms, e.g., Ernst Whinney and Arthur Young, and Deloitte Haskins & Sells and Touche Ross.

International Regulatory Organizations

Although the relationships between multinational corporations and host countries in the 1980s have become less antagonistic and more pragmatic and businesslike there are a number of areas of concern. There seems little doubt that multinationals exert a significant impact on the culture and social development of host countries. Employment and consumption patterns are often significantly influenced by multinationals. As a result, there is pressure for more accountability to employees and consumers concerning relevant matters and for some consultation with the parties affected by multinational corporate decisions.

The environmental impact of multinationals is also an area of major and growing importance in terms of accountability. Whereas developed countries have a growing array of regulations, developing countries tend to have lower standards, being concerned with improved economic conditions. At the same time, many multinationals have increased their awareness of safety procedures and the need for stronger community relations. In this context, both the UN and OECD have been concerned with providing guidelines to multinationals, including the disclosure of relevant information, so as to encourage positive relationships with host countries.

At the level of international financial markets there has been concern to harmonize, e.g., differences in tax regimes, exchange controls, restrictions on foreign investments, and accounting and disclosure requirements, which still provide obstacles to the globalization of securities markets. The OECD and European Community have been influential here, especially the latter, in efforts to harmonize the minimum requirements for the admission of securities to listing and the content of prospectuses. In addition, the International Federation of Stock Exchanges and the International Organisation of Securities Commissions (IOSCO), both private organizations, are seeking to promote the internationalization and integration of securities markets on a global basis.

As to the internationalization of accounting and auditing standards, the International Accounting Standards Committee (IASC) and the International Federation of Accountants (IFAC) are both involved in the harmonization effort and provide a private professional counterpoint to the activities of intergovernmental organizations, such as the UN, OECD, and the European Community.

International Accounting Research Issues

An understanding of the global environmental and cultural context and of the impact of international forces for change is instructive in providing the rationale and inspiration for a variety of important challenges for international researchers.

Based on the foregoing analysis, an attempt to identify important accounting research topics and some issues which would seem worthy of attention and future investigation will now be made. This review does not endeavor to identify and evaluate the nature and extent of prior research in the field.[14] Rather, its purpose is to demonstrate the significance of international accounting by showing the important and exciting potential for research in a wide range of new as well as existing problem areas.

(1) Accounting and Economic Development

The problems of economic development face all countries but none more so than the developing countries. Questions arise of the role of accounting in economic development and the appropriate systems to use in the context of a variety of local needs and cultural values. To what extent then should Western systems, e.g., Anglo-Saxon or Continental European systems, be used or adapted to meet the needs of individual developing countries? Are international accounting standards relevant in any way to the needs of developing countries? What is the relationship between public and private sector accounting needs, and what are their relative priorities, in developing countries? What accounting educational policies should be adopted for successful economic development?

(2) International Joint Venture Accounting

With the rapid growth in joint-venture arrangements between multinationals and host country corporations and governments, e.g., in China, and the USSR, the problems of how to co-ordinate different cultural and accounting traditions in a way that resolves issues relating to financial control, the measurement of profit and the valuation of the investment exist. Interesting questions include whether or not accounting differences are being used either deliberately or unconsciously to the advantage of one or another partner. To what extent are such differences responsible for disagreements between partners? How are they resolved in practice? Is there an ideal approach to international joint venture accounting?

(3) Comparative International Public Sector (Governmental) Accounting

In addition to comparative analyses of public sector accounting systems, the growing trend to privatization in many countries, including the developing countries, e.g., in Africa, provides scope for investigation of the nature and impact of changes in the accounting and control systems used in the process of public sector corporations becoming private corporations. In a comparative international context, the assessment of the changes considered necessary, and the motivations and political processes involved, would be interesting. Further, what are the effects of such changes on the performance of the corporation and the welfare of its employees?

(4) Comparative International Development of Stock Markets

With many developing countries endeavoring to encourage the growth of stock markets which are competitive internationally, many problems remain to be resolved concerning the extent of regulation and investor protection necessary for successful development. Important questions here include whether or not the developed stock markets provide a useful yardstick for the emerging markets. To what extent should local needs and culture be incorporated into accounting and disclosure requirements? How relevant are international accounting standards in the context of a developing country's stock market? How significant are differences in market responses to accounting reports on a comparative basis both within and between the developed and developing countries?

(5) Global Co-ordination of Stock Exchange Regulation

The growing integration of financial markets internationally has generated questions concerning the co-ordination of many different stock exchange listing and reporting requirements arising from a variety of regulatory and accounting traditions. Major issues include the impact of regulatory differences on listing choice and whether or not international accounting standards should override local standards in the case of multinationals seeking foreign listings. Should there be separate requirements for multinationals or should international accounting standards apply to all companies on a world-wide basis? As an alternative to international accounting standards, should reconciliations to a set of common standards for multinationals be required as supplementary information? How should regulation be co-ordinated, given the many governmental and self-regulatory organizations involved?

(6) International Financial Statement Analysis

Understanding differences in accounting and business traditions has become much more important with the growth in international portfolios and direct investments, where financial information is analysed on a comparative basis. Important questions here include the extent to which international accounting differences affect the measurement of earnings and profitability, liquidity, and solvency and the interpretation of such differences by analysts and investors located in different countries. To what extent do accounting differences affect the share prices of multinationals listed on foreign stock exchanges and raise the cost of capital internationally? Do accounting differences pose a significant deterrent to foreign portfolio investment in practice?

(7) International Financial Markets and Multinational Disclosure

The growing internationalization of financial markets and the trend towards multiple stock exchange listings by multinationals is the result of and is contributing to increasingly competitive market pressures. In this context, multinationals are voluntarily disclosing information which they hope will help them to raise funds more cheaply and promote their capacity to engage in merger and investment activity. Interesting questions here include the nature and the extent to which such disclosures are made in a comparative international context. What are the costs and benefits involved to the multinationals concerned? Are voluntary disclosures a significant factor in reducing the cost of capital? To what extent is international regulation important if multinationals voluntarily disclose more information than is required?

(8) Comparative International Financial Reporting

With the growing internationalization of financial markets there has been a greater appreciation of the significance of international financial reporting issues. Major measurement problems have still to be resolved. How meaningful are foreign currency translations using the current rate method? How can foreign currency changes be accounted for without accounting for foreign inflation and how should this be done? The focus of multinationals on international diversification in the pursuit of globalization emphasizes the need to develop more effective systems of reporting international operations, including an appropriate form of geographical segment reporting. Further disclosure issues include the usefulness of socially and environmentally related information, the feasibility and cost of future prospects information, the sensitivity of research and development information from the viewpoint of competitive disadvantage, and the relevance of employee reports. A major problem is that although multinationals experiment with supplementary disclosures in their directors' reports, international and local professional standard setters continue to focus almost exclusively on the content of financial statements.

(9) Comparative Accounting Standards-Setting Processes

Accounting standard-setting processes at the national level range from the purely legal to the largely professional, with most countries providing a mixture of regulatory controls. There are many questions here concerning the nature of the standard-setting process in a comparative context. What are the major economic, social and political influences and how have these affected the outcome of the standard-setting processes both in general terms and in specific cases? To what extent have these influences themselves changed in the context of a historical perspective? To what extent is the influence of the accounting profession internationally becoming more or less important?

(10) International Accounting Harmonization

A variety of international organizations are involved in efforts to harmonize accounting and financial reporting across countries including the European Community, UN, OECD, and at the professional level, the International Accounting Standards Committee (IASC). Questions arise of the extent to which such efforts have had an impact on practice. What are the political and organizational processes involved? Do the benefits of harmonization outweigh the costs? Are competitive international investment pressures more effective than harmonization by regulation? How can international pressures and local accounting and cultural values be co-ordinated?

(11) International Classification of Accounting Systems

Given the continuing tension between international and domestic pressures on financial reporting practice, more needs to be known on a comparative basis of the impact of national culture and accounting traditions compared with the information needs of international financial markets. More in-depth studies of national accounting development incorporating historical, economic, social, political, and cultural perspectives would be helpful as the building blocks for international comparative analysis and international classification. To what extent are international patterns of accounting changing in the 1980s and what are the major factors involved?

(12) Comparative International Taxation

International differences in taxation and problems of harmonization within economic groupings, such as the European Community, continue to pose problems.

Interesting questions include the following: What is the extent to which differences in tax rules affect global and regional growth? What is the comparative impact of tax on accounting differences between countries? How are tax differences used to attract investment? What is the effect of withholding taxes on foreign portfolio investment in a comparative context? Is there an ideal basis for taxing multinationals on a globally consistent and equitable basis?

(13) International Professional Accounting and Auditing

Many accounting firms have become major service multinationals branching into a variety of finance- and business-related services as well as auditing. This poses problems of integration and management control, with special reference to recent mega-merger developments. To what extent has integration been successful? It also raises the serious question of the extent to which the independence of the audit function is being threatened by the commercial pressures of providing business-related services. Can and should international accounting firms provide a global standard of auditing service?

(14) Comparative International Accounting Education

With the dramatic growth in international firms providing accounting and auditing services, the increasing demand for qualified personnel raises major questions of the sources of supply considering demographic changes and the education of potential entrants. Should all accountants be required to have a university education in accounting? Should there be minimum world-wide standards of professional education? Should education be general-practitioner based followed by further specialized education and training? To what extent and for what reasons are and should there be differences in accounting education between countries, regions and economic groupings?

(15) Multinational Management Control Systems

In addition to the changing strategies and organization of multinationals are a range of issues on the implementation and use of control systems and criteria for performance evaluation, which are appropriate not only to the national culture of foreign subsidiaries but also promote overall co-ordination of the business. To what extent and with what effect are multinationals changing their systems to cope with more decentralized organizational structures in the context of product consolidation and global diversification. What are the differences in practice between Japanese, US, and European multinationals and what are the reasons for this?

(16) International Transfer Pricing

International business and financial interrelationships within multinationals are constantly changing in response to management control strategies and the impact of changes in taxation, exchange rates, inflation, and a variety of risk factors. In this context, transfer pricing decisions have become increasingly important, not least with the growth of multinationals providing integrated business services. How then are transfer pricing decisions being made and what is their effect on corporate performance and employee motivation? What is the relative importance of the various factors involved in a comparative international context? How important is tax minimization and how influential are the regulatory authorities in controlling multinationals in an international context?

(17) International Mergers and Strategic Alliances

The dramatic growth of international mergers and strategic alliances poses a variety of questions on both management control systems and financial reporting. To what extent is the quantity of information disclosed in the context of international mergers adequate and should this be subject to harmonization requirements on a world-wide basis? How should newly acquired foreign subsidiaries with different control and performance evaluation systems be integrated, given the significance of national and corporate cultural differences? How can international differences in accounting for business combinations, including the treatment of goodwill, be resolved? To what extent do UK companies have a competitive advantage over US companies because of differences in the treatment of goodwill? How should strategic alliances involving significant cross-holdings of equity between multinationals be reported?

(18) Multinational Manufacturing Systems

The nature of manufacturing by multinationals has become globally orientated and transformed by technological innovation, especially by information technology, with a major shift towards computer-integrated or flexible manufacturing systems. Many new issues have arisen as a result of this, including the need to redesign costing and control systems, and the development of performance evaluation criteria to incorporate qualitative measures such as flexibility and product quality. How and with what effect are multinationals implementing such accounting systems changes? To what extent are there differences in approach between multinationals based in different countries?

(19) International Communications and Information Technology

The revolution in information technology poses many new questions on the development of integrated databases for internal and external purposes, the design of information systems, and the construction of international communications networks. What information requirements for management control and competitive strategic analysis could be satisfied by new database systems? What are the problems of developing internal information networks in an international context and how can these be resolved? How can external financial reporting be communicated speedily to international financial markets where computerized trading and analysis are increasingly being used? In what form should external information be presented, given the potential for more disaggregated reporting? How can databases be made more comparable and accessible internationally?

(20) Accounting for Multinational Services

The growth and significance of service multinationals in a variety of areas, such as finance, banking, insurance, management consultancy, accounting, advertising, public relations, publishing, retailing, hotels, food, and travel, have raised important questions on the valuation of intangible assets, e.g., intellectual property rights, patents, brand names and human resources. Should such major assets be valued in financial position statements or should supplementary information, including quantitative data, be provided in directors' reports? How should intangible assets be valued in a mergers and acquisitions context?

(21) International Banking and Financial Services

The dramatic growth of international banking and financial services in the 1980s, with the trend toward the provision of integrated services, has raised a number of important and interesting problems. The traditional secrecy of banks is now being questioned, with concern to introduce higher levels of accountability at the international level. What are the problems of introducing minimum capital requirements internationally? To what extent should banks be required to disclose information on their loan portfolio, especially in high-risk countries/areas of business? How should gains and losses in respect of new financial instruments, e.g., currency swaps, back-to-back loans, and foreign currency options be accounted for? How effective is the integration of the variety of services offered in terms of providing information for management control while fostering client relationships which may well be a source of conflicts of interest?

A total of 21 research topics, each with a variety of research issues, provides the international accounting researcher with a smorgasbord of choice and a challenging work program. But how should such research be approached?

International Perspectives on Research Methodology

The author argues that international accounting research should be problem-driven rather than methodology-driven if it is to be relevant. Accordingly, the topics and problems identified will probably suggest a variety of methodologies depending on the specific issues investigated or hypotheses stated.

There is substantial scope for international accounting research which is *a priori*, empirical or both. Research that is *a priori* is analytical in the sense that the emphasis is on the logical deduction of hypotheses or conclusions from assumptions or generalizations that may not necessarily be derived from actual observations. Such research can be useful in providing ideas on the resolution of problems or the desirability of new methods, e.g., for foreign subsidiary performance evaluation, which can then be tested for feasibility and usefulness in terms of the costs and benefits involved.

Empirical research, on the other hand, usually focuses either on the testing of hypotheses derived from *a priori* research or the development of descriptive generalizations using observations of actual practice or events. Such observations may be made directly in the context of field studies in corporations or indirectly through questionnaire surveys, interviews, experiments and the analysis of archival data, including company reports and financial databases.

Irrespective of methodology, the fundamental criterion is that research should make a contribution to knowledge, i.e., it should improve understanding and explanations of significant problems or phenomena and should better predict likely future outcomes.

The criterion for international accounting research methodology is thus no different from that for domestic accounting research. What is different, however, is the way in which research is likely to be conducted in the future. Consistent with the global reach of accounting research issues will be the necessity for researchers to become involved increasingly in international networks to facilitate or help conduct research. International research teams can ensure access to research sites, provide sensitivity to national and corporate culture, speed the gathering of data, and promote the reliability of research findings. If international issues are to be tackled effectively, then much more effort and financial support will be required to encourage international interaction and collaboration.

Associated with this likely and desirable outcome is the potential for information technology to help researchers in terms of (1) international communication and (2) the international development of and access to databases of financial information, share prices, economic and social statistics, and accounting regulations and practices around the world. Concerted effort is now needed to make progress in this direction, given the global scale of many issues.

The Global Research Challenge

International accounting research poses a global challenge to accounting researchers. In a world of growing international relationships there are many important problems and new situations which have yet to be understood, explained, and resolved. The international dimension of accounting is now fundamental to the subject. It is time to accept the challenge and integrate international accounting more fully into our thinking, our research, our teaching, and our practice.

If we accept the global environmental and cultural context of accounting, then it becomes clear that accounting at the national level, with its inherently ethnocentric focus, is only a part of the broader scheme of things, i.e., a subset of global accounting. Recent developments in the world of international business and finance, coupled with dramatic improvements in communications and information technology, confirm the relevance of this perspective. Research issues should thus be examined in their global context. Not to do so is to ignore the fact that the world really has become a smaller place.

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International Internal Audit Planning

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Key words: Internal audit; International; Judgment; Preliminary planning process

Abstract: *Information factors used by experts during the preliminary planning process of an international internal audit are identified and examined. The importance of this topic is derived from the need to plan effective international internal audits, which are typically more demanding and more expensive than domestic audits. The perceived relative importance of 44 information factors was measured using a scaling technique called magnitude estimation. Additionally, experts assisting this study grouped the factors into the following general categories: (1) audit scope; (2) the firm's external operating environment; (3) communications; and (4) the auditors' working and social environment.*

Although the attention focused on audit judgment research has been substantial, to date most of this work has concentrated on external auditors in a variety of settings. Little attention has been directed to either internal auditors or international audits.[1] The research reported in this paper examines the judgments of international internal audit experts. Specifically, this research investigates the assessments of these experts of the importance of those factors which have an effect on international internal audit planning decisions. The objective of this study is to examine the individual factors cited and to identify which issues are most important in the decision-making process of international internal auditors.

Background

Preliminary Planning Process

The preliminary planning process of an audit is similar to the textbook description of the preliminary internal audit survey.[2] The focus of this process is auditor

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familiarization so that the examination can be adequately planned and managed. Unfortunately, a precise description of the steps involved in the planning process is not readily available in the auditing literature. To specify these steps, a two-part process was undertaken. Initially, steps were listed based on an analogy of the procedures used in the scientific approach to problem solving. Then the panel of international audit experts participating in this study were asked to confirm the propriety of these steps and to make any necessary changes. This process resulted in the specification of six basic steps:

(1) data gathering;
(2) data analysis;
(3) determination of audit objectives and scope;
(4) selection of audit resource alternatives, including
    (a) staff specialists,
    (b) experience mix of staff,
    (c) computer assistance,
    (d) time budget allocation;
(5) implementation of audit management controls;
(6) establishment of reporting requirements including evaluation of audit performance.

Although these activities are listed in their usual and logical order, it is important to note that there is considerable overlap. Significant feedback and readjustment occur throughout the planning process.

International Internal Audits

With the rapid expansion of the activity of auditing firms into the multinational environment, several risks associated with conducting business on a world-wide basis arise. The risks faced by the internal auditor also increase correspondingly. The shortage of highly qualified employees, operating standards and procedures which may be less sophisticated than in the United States, and the rapidly changing international economic environment are but a few of the reasons for increased audit risk. Additionally, language and cultural difficulties, a lack of familiarity with many diverse operations, and the complexity of many international audit locations contribute to increasing risks in this environment. These risks, with generally higher audit costs per assignment, place increased emphasis on judgments concerning preliminary planning for international audits.

International Audit Planning Information

A master set of specific information factors was developed *a priori* by a review of the related literature which provides practical guidance to auditors in planning and managing international audit assignments.[3–18] A total of 44 factors were identified and are listed in Table 1.

Table 1. International Internal Audit Planning Factors

1. Distance of audit location from administrative headquarters
2. Personal safety of auditors
3. Extent of English language usage
4. Other language considerations:
   (a) difficulty of primary language
   (b) dual language documentation
5. Inflation level
6. Ethical standards of country
7. Location autonomy and number of administrative functions performed by headquarters
8. Presence of currency controls
9. Auditor living conditions
10. Local tax regulations affecting auditor and/or firm
11. Government relations (nationalization policies)
12. Auditor living expenses
13. Travel expenses to location
14. Importation and exportation policies including local content restrictions
15. Competence of local operating staffs and external auditors
16. Government regulations
17. Industrialization of country
18. Availability of competent suppliers
19. Sophistication of communications
20. Form of government
21. Political environment
22. Number of US expatriots employed and requirements on the employment of foreign nationals
23. Politics of union and relations with firm
24. Age of company (state of control development)
25. Efficiency of postal system
26. Requests for special investigations
27. Financial condition of company
28. Technological operating condition of company
29. Government regulations on hiring and firing of employees
30. Extent of computerization
31. Effectiveness of internal controls
   (a) as of last internal control questionnaire
   (b) as of external audit management letter
32. US- or location-controlled credit lines
33. Ability to repatriate profits (funds)
34. Turnover in key personnel
35. Similarity to US accounting and auditing standards
36. Use of cash in making payments (rather than checks)
37. Size of company (assets, employees, etc.)
38. Third-party agent involvement in doing business
39. Similarity of banking system to US system
40. Deficiencies found in last internal audit report and follow-up report
41. Sociological customs (including religion, work hours, work days per week, number of holidays and vacation policies)
42. Time elapsed since last internal audit
43. Significant changes since last internal audit
44. Areas audited by other functional entities (quality control, engineering, etc.)

Method

Five highly experienced auditors were chosen to participate as an expert panel in this research. Each had a minimum of 25 years of business/financial experience, including over 20 years of audit experience. Almost all of their audit experience was involved with internal auditing. The average international audit experience was approximately 8 years and focused on the planning of international internal audits. All of the panel members held baccalaureate degrees and two also had earned graduate degrees. Each auditor was contacted at his place of work and interviewed in-depth. The interviews included the performance of three tasks, described below, which resulted in the grouping and ranking of the 44 information factors listed in Table 1.

Grouping Information Factors

Using a technique similar to that of Mock and Samet,[19] each of the factors appearing in Table 1 was printed on an index card. Each panel member was asked to sort the randomized (shuffled) deck of cards into groups, each group reflecting a similar general category of planning information. After sorting the cards, the panel member provided a descriptive title for each general category. Once titles were provided, the panel member was questioned further to develop other possible descriptions or phrasings for each title and to obtain an in-depth understanding of the panelist's interpretation of each general category. Table 2 gives the results of this task. Information factors which were highly rated within each general category were also used to explain and clarify the general category titles.

Magnitude Estimation

The second task required each panel member to assess the relative importance of the 44 factors. Magnitude estimation, which specifies a point of reference from which all other items are evaluated, was used to collect ratio rather than categorical information.[20]

Magnitude estimation is a stimulus-centered scaling technique, which was initially developed in the area of psychophysics by Stevens.[20] Developed in response to the weaknesses of categorical scaling, magnitude estimation seeks to quantify physical stimuli on a sensory continuum (one's strength of impression). Through experimentation, it has been determined that different physical sensations increase at different characteristic rates; these characteristic rates are known as "power functions".[21] A power function exponent of 1.0 for line lengths, for example, indicates that the doubling of a line length will, typically, produce a doubling of its number response.[22] Substitution of social for physical stimuli has resulted in the widespread use of magnitude estimation in social science research.[22]

Howard discussed attitude measurement, emphasising the advantages of magnitude estimation, and recommended that previous research studies which had used categorical scaling might be replicated using magnitude estimation.[23] He further suggested that magnitude estimation may aid in determining which information items to include in a particular study, as was done in this research.[23] Tomassini asked subjects to select the least preferable option in an investigation of the effects of human resource accounting.[24] The subjects were instructed to assign a value of 1.0 to the option that they preferred least and then, relative to that, to assign numerical values to the other options.[24] Grove and Savich,[25] Johnson,[26] and

Table 2. Results of Experts' Task One; Grouping of Specific Factors and Naming of General Categories

Category names	Specific factors grouped in this category
Expert No. 1	
(1) Firm's external operating environment (country environment - physical)	(1) 6, 17, 18, 23, 28, 35, 38, 41
(2) Audit scope (internal audit considerations)	(2) 7, 15, 26, 31, 34, 40, 42, 43, 44
(3) Communications - language	(3) 3, 4, 19, 25, 30
(4) Financial considerations by company (financial effects of company)	(4) 5, 8, 27, 32, 33, 36, 39
(5) Auditors' environment	(5) 1, 2, 9, 12, 13
(6) Size and age of company	(6) 24, 37
(7) Political – regulatory environment	(7) 10, 11, 14, 16, 20, 21, 22, 29
Expert No. 2	
(1) Administrative, financial and operations (productivity level of country) (internal company policy) (internal audit environment)	(1) 1, 7, 12, 13, 18, 19, 24, 25, 26, 27 28, 30, 32, 34, 36, 37, 39
(2) Logistics – audit (past and present scope parameters) (audit management) (auditor communications)	(2) 2, 3, 4, 9, 10, 15, 31, 35, 38, 40, 42, 43, 44
(3) Country variables (economic, political, and sociological considerations)	(3) 5, 6, 8, 11, 14, 16, 17, 20, 21, 22, 23, 29, 33, 41
Expert No. 3	
(1) Budgetary considerations – auditor	(1) 5, 10, 12, 13, 41
(2) Logistics – communications	(2) 19, 25
(3) Staff security	(3) 2, 9, 20, 21
(4) Staff capabilities – language, computer	(4) 3, 4, 30
(5) Audit scope and complexity	(5) 7, 8, 11, 14, 15, 16, 18, 22, 23, 24, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 39, 40, 42, 43, 44
(6) Foreign Corrupt Practices Act	(6) 6, 38
(7) Not relevant	(7) 1, 17
Expert No. 4	
(1) Cost of logistics of job-auditor	(1) 1, 2, 7, 9, 12, 13, 37
(2) Auditor training or familiarity with firm's environment	(2) 10, 11, 14, 27, 39
(3) Not used in planning	(3) 5, 8, 17, 19, 20, 21, 23, 25, 29, 32, 33, 36, 41
(4) Areas within scope (subclassified)	
(A) Communications – language	(4A) 3, 4, 15, 22, 31, 34
(B) Business environment – firm	(4B) 6, 16, 35, 38
(C) Complexity	(4C) 28, 30
(D) Changes from last audit	(4D) 18, 24, 26, 40, 42, 43, 44
Expert No. 5	
(1) Government-related	(1) 11, 14, 16, 17, 20, 21, 23, 29, 41
(2) Auditor-related	(2) 2, 5, 9, 10, 12, 13
(3) Communications	(3) 3, 4, 19, 25, 28
(4) Scope	(4) 7, 8, 15, 24, 26, 27, 30, 31, 32, 34, 35, 36, 37, 39, 40, 42, 43, 44
(5) Other	(5) 1, 6, 18, 22, 33, 38

(Alternative phrasings are provided in parentheses below the initial response)

Howard[27] provide other examples of the use of magnitude estimation in accounting research.

This research uses a one-calibrated response measure design.[28] Lodge stated: "this design appears to be the most powerful alternative to the full-fledged cross-modality matching paradigm."[29] A cross-modality matching design was not used in this study because of the length of the interviews planned for each panel member. Instead, numerical estimation, which requires that the subject match numbers to the strength of his impressions, was used.[30] The responses were calibrated using line-length estimation as described by Lodge.[30] In this task, nine metric stimuli (straight lines) were drawn individually, one to a card, on large index cards in prescribed millimeter lengths, providing for a 100:1 range of line lengths. Line A was a length of 50 mm and was assigned the number 50, and the other lines of varying lengths were randomly assigned the letters B-I. Each panelist was asked to estimate the length of lines B-I. The subjects were given specific instructions to respond relative to the reference line A. This calibration procedure trained the panel and helped to insure that they were able to understand and apply the concept of proportionality.[31,32] The results of this training task can be found in Table 3.

Table 3. Results of Experts' Training Task; Magnitude Estimation – Numerical Estimation of Line Lengths

Line	By Expert										Arithmatic means of logs	Geometric means	Actual line lengths
	Numerical estimates of line lengths					Logs of numerical estimates							
	1	2	3	4	5	1	2	3	4	5			
A[a]	50	—	Given					1.7[b]			1.7[b]	50[b]	50[c]
B	150	125	170	100	120	2.2	2.1	2.2	2.0	2.1	2.1	131.2	125
C	5	5	4	5	5	0.7	0.7	0.6	0.7	0.7	0.7	4.8	2
D	200	150	210	350	170	2.3	2.2	2.3	2.5	2.2	2.3	206.1	160
E	250	200	240	400	200	2.4	2.3	2.4	2.6	2.3	2.4	248.9	200
F	10	15	8	10	10	1.0	1.2	0.9	1.0	1.0	1.0	10.4	6
G	25	40	25	25	20	1.4	1.6	1.4	1.4	1.3	1.4	26.3	25
H	125	150	112	100	90	2.1	2.2	2.1	2.0	2.0	2.1	113.8	100
I	40	60	40	75	35	1.6	1.8	1.6	1.9	1.5	1.7	47.9	38

[a] Reference line.
[b] Rounded to one decimal place for presentation only (applies to entire column).
[c] Lengths are in millimeters.
Regressing geometric means to actual line lengths produced a linear regression coefficient of 0.9938.

The subjects then evaluated the 44 information factors in relation to a reference cue, "availability of an EDP audit specialist on the audit team", which was assigned a score of 20 points. Each factor was evaluated relative to this reference cue in terms of its importance in the preliminary planning process for an international internal audit. These responses were used to develop ranks which were summarized in a composite ranking of all 44 factors in Table 4. These rankings were used to: indicate which information factors were perceived to be most important within each of the general categories; interpret further the category names; provide for

Table 4. Experts' Task Two – Calculation of Average Ranks of 44 Specific Factors

Specific Factor	Ranks by expert					Sum	Mean	Rank
	1	2	3	4	5			
1	37	39.5	43.5	36.5	36	192.5	38.5	44
2	10	1	23.5	19.5	3.5	57.5	11.5	6
3	10	28	12	19.5	1	70.5	14.1	8
4	3.5	6.5	12	14	3.5	39.5	7.9	4
5	37	39.5	23.5	42.5	36	175.5	35.7	43
6	3.5	16.5	12	27.5	36	95.5	19.1	11
7	20	28	23.5	14	18	103.5	20.7	19
8	37	28	12	19.5	36	132.5	26.5	30
9	20	16.5	38	19.5	3.5	97.5	19.5	12
10	37	39.5	23.5	27.5	18	145.5	29.1	36
11	15.5	16.5	38	19.5	36	125.5	25.1	28
12	37	39.5	31.5	36.5	18	162.5	32.5	39.5
13	37	39.5	31.5	36.5	18	162.5	32.5	39.5
14	37	28	5	36.5	36	142.5	28.5	33.5
15	3.5	16.5	2.5	8.5	18	49.0	9.8	5
16	27.5	16.5	23.5	27.5	18	113.0	22.6	21
17	37	28	38	27.5	36	166.5	33.3	41
18	37	39.5	23.5	5	36	141.0	28.2	32
19	25	28	23.5	27.5	18	122.0	24.4	25
20	37	6.5	43.5	27.5	36	150.5	30.1	37
21	37	6.5	23.5	14	18	99.0	19.8	14.5
22	37	39.5	38	3	36	153.5	30.7	38
23	20	6.5	38	19.5	36	120.0	24.0	22.5
24	10	39.5	5	8.5	36	99.0	19.8	14.5
25	37	39.5	38	36.5	18	169.0	33.8	42
26	15.5	39.5	12	27.5	7	101.5	20.3	17.5
27	27.5	28	23.5	27.5	18	124.5	24.9	27
28	23.5	28	23.5	8.5	18	101.5	20.3	17.5
29	27.5	16.5	38	42.5	18	142.5	28.5	33.5
30	3.5	16.5	2.5	3	7	32.5	6.5	2
31	3.5	6.5	1	1	3.5	15.5	3.1	1
32	37	28	12	27.5	18	122.5	24.5	26
33	37	6.5	12	36.5	36	128.0	25.6	29
34	15.5	16.5	12	3	18	65.0	13.0	7
35	10	28	12	36.5	18	104.5	20.9	20
36	23.5	28	31.5	42.5	18	143.5	28.7	35
37	27.5	28	38	8.5	18	120.0	24.0	22.5
38	20	6.5	23.5	14	36	100.0	20.0	16
39	15.5	28	38	36.5	18	136.0	27.2	31
40	3.5	6.5	12	8.5	7	37.5	7.5	3
41	13	6.5	23.5	42.5	36	121.5	24.3	24
42	10	6.5	31.5	14	36	98.0	19.6	13
43	20	16.5	12	8.5	18	75.0	15.0	9
44	7	16.5	5	27.5	36	92.0	18.0	10

descriptions to be used in further research; and delete the information factors deemed to be unimportant.

After evaluating specific factors, the panel evaluated the general categories. The reference factor used was "availability of audit team specialists", which was assigned a score of 20 points. Table 5 summarizes the panel's evaluations of the general categories.

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sented

Expert Rank
2.5
2.5
4
5.5
5.5
7
1
2.5
2.5
1
2.5
2.5
4
5.5
5.5
7
1.5
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3
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4.5

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important category. The
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l audit environment) as

Table 4. Experts' Task Tw

Specific Factor	Ranks by exper	
	1	2
1	37	39.5
2	10	1
3	10	28
4	3.5	6.5
5	37	39.5
6	3.5	16.5
7	20	28
8	37	28
9	20	16.5
10	37	39.5
11	15.5	16.5
12	37	39.5
13	37	39.5
14	37	28
15	3.5	16.5
16	27.5	16.5
17	37	28
18	37	39.5
19	25	28
20	37	6.5
21	37	6.5
22	37	39.5
23	20	6.5
24	10	39.5
25	37	39.5
26	15.5	39.5
27	27.5	28
28	23.5	28
29	27.5	16.5
30	3.5	16.5
31	3.5	6.5
32	37	28
33	37	6.5
34	15.5	16.5
35	10	28
36	23.5	28
37	27.5	28
38	20	6.5
39	15.5	28
40	3.5	6.5
41	13	6.5
42	10	6.5
43	20	16.5
44	7	16.5

descriptions to be used
deemed to be unimporta

After evaluating spec
The reference factor use
assigned a score of 20 p
general categories.

Table 5. Results of Experts' Task Three; Magnitude Estimation Evaluation of General Categories Relative to Reference Cue Assigned a Value of 20 (presented in order of perceived relative importance)

Category	Score	Expert Rank
Expert No. 1		
(1) Audit scope	200	1
(2) Firm's external operating environment	100	2.5
(3) Political – regulatory environment	100	2.5
(4) Communications - language	60	4
(5) Auditor's environment	40	5.5
(6) Size and age of company	40	5.5
(7) Financial considerations	10	7
Expert No. 2		
(1) Administrative, financial and operations	40	1
(2) Logistics – scope and communications	30	2.5
(3) Economic, political and sociological environment	30	2.5
Expert No. 3		
(1) Audit scope and complexity	40	1
(2) Staff capabilities – language and computer	20	2.5
(3) Budgetary considerations – auditor	20	2.5
(4) Staff security	15	4
(5) Logistics – communications (technology)	10	5.5
(6) Foreign Corrupt Practices Act	10	5.5
(7) Not relevant	0	7
Expert No. 4		
(1) Areas within scope (subclassified)		
(A) Communications – language	200	1.5
(B) Business environment – firm	200	1.5
(C) Complexity	100	4
(D) Changes from last audit	100	4
(2) Auditor familiarity	100	4
(3) Costs or logistics – auditor	10	6
(4) Not used	5	7
Expert No. 5		
(1) Scope	30	1.5
(2) Auditor-related	30	1.5
(3) Communications	20	3
(4) Government-related	10	4.5
(5) Other	10	4.5

Category names presented here have been selected based upon brevity and commonality as provided by experts in Task One.

Results

The responses of the panel to the sorting and naming tasks and the scores assigned to each general category were summarized and reviewed. The category titles selected were recorded in descending order of their perceived relative importance, using the scores assigned to them.

Four of the five panelists listed audit scope as the most important category. The other auditor listed audit scope as his second most important category, and selected administrative, financial, and operations (internal audit environment) as the most important category. Agreement by the panelists that audit scope is a very important planning factor substantiates the literature.

The next most important category selected was the environment in which the firm operates. All of the experts considered this category to be among the four most important categories. The effects of variations in business practices from country to country regarding foreign subsidiaries have been well documented in the international accounting literature.

Three of the panelists listed communications/staff language capabilities as the second most important category. The other two auditors rated communications as the third and fourth category, respectively, in importance.

The only other category mentioned by all of the panelists was one involved with aspects related specifically to the auditor. An examination of the specific factors assigned to this category title led to the selection of auditors' working and social environment as the fourth category identified.

As the panel sorted the 44 cards (specific factors) into category groups ranging in number from three to seven, several miscellaneous lower-ranked categories remained after the four categories described above had been identified. For example, one panelist gave the size and age of the audit location's operation as a separate category, whereas it was included in the scope category by the others. The Foreign Corrupt Practices Act was listed as a separate category by another auditor, although the remainder of the panelists grouped it in the scope category.

The perceived relative importance scores of the 44 factors were used to rank each factor by panelist. A composite rank (arithmetic mean) was determined for each factor over all panelists. These composite ranks were calculated based on the scores provided by the auditors. The composite ranks were examined and it was determined that only small differences existed between the rankings.

The assignment of specific factors to general categories was examined to determine the composition of each category (see Table 6). This examination revealed that six of the highest-ranked specific factors, as well as several others, were assigned to the audit scope category. The factors included in the audit scope category were rather easily divided into two sets. The first set reflects the condition of the control structure; the second set reflects additional demands upon the auditor's time in performing the audit. Due to the importance placed on audit scope by the panel, the set of factors relating to control structure was removed from the audit scope category. Audit scope considerations reflecting factors of an international internal audit other than those of control structure remained as a category. This decision was justified based on the objective of this research study: to investigate judgment regarding the preliminary planning process for an international internal audit. Control factors are, of course, equally important to domestic audits and are well established as fundamental considerations of audit planning in the accounting literature, including Standards of the Professional Practice of Internal Auditing and Generally Accepted Auditing Standards. The control structure factors are designated IC in Table 6.

A second factor, financial condition of the firm, was also removed from the audit scope category. One panelist suggested than an operation in poor financial condition may receive special audit attention. Therefore, this factor may be

Table 6. Summary of Categories with Specific Factors Listed by Rank Order over all 44 Factors

Scope of audit work to be performed	Rank	
Effectiveness of internal controls (31)	1	
Deficiencies found in last internal audit report and follow-up report (40)	3	
Competence of local operating staffs and external auditor (15)	5	
Turnover in key personnel (34)	7	
Significant changes since last internal audit (43)	9	
Areas audited by other functional entities (44)	10	
Time elapsed since last internal audit (42)	13	
Age of company (state of control development) (24)	14.5	
Requests for special investigations (26)	17.5	
Location autonomy (7)	19	
Size of company (37)	22.5	
US- or location-controlled credit lines (32)	26	
Financial condition of company (27)	27	(FC)
Ability to repatriate profits (33)	29	
Presence of currency controls (8)	30	
Similarity of banking system to US system (39)	31	
Use of cash in making payments (rather than checks) (36)	35	

External operating environment of the foreign operation	Rank	
Ethical standards of country (6)	11	
Political environment (21)	14.5	(PE)
Third-party agent involvement in doing business (36)	16	
Technological operating condition of company (28)	17.5	
Similarity to US accounting and auditing standards (35)	20	
Government regulations (16)	21	
Politics of union and relations with firm (23)	22.5	
Sociological customs (41)	24	
Government relations (11)	28	(PE)
Availability of competent suppliers (18)	32	
Importation and exportation policies (14)	33.5	
Government regulations on hiring and firing of employees (29)	33.5	
Form of government (20)	37	(PE)
Number of US expatriots employed and requirement on the employment of foreign nationals (22)	38	
Industrialization of country (17)	41	

Auditor communications (language and terminology)	Rank
Extent of computerization (30)	2
Other language considerations; difficulty of primary language and dual language documentation (4)	4
Extent of English language usage (3)	8
Sophistication of communications (19)	25
Efficiency of postal system (25)	42

Auditor's working and social environment	Rank
Personal safety of auditors (2)	6
Auditor living conditions (9)	12
Local tax regulations affecting auditor and/or firm (10)	36
Auditor living expenses (12)	39.5
Travel expenses to location (13)	39.5
Inflation level (5)	43
Distance of audit location from administrative headquarters (1)	44

Factor categories marked and number of each specific factor designated by parentheses.
FC = Financial condition.
PE = Political environment.

subject to diverse interpretations. The financial condition factor is designated FC in Table 6.

Finally, a third factor, political environment, was removed from the category described or identified as the firm's external operating environment. The political environment was regarded by one panelist as having diverse effects on the planning of an international internal audit. These effects were said to change quickly. These political environment specific factors were designated PE in Table 6.

Summary

This paper reports the results of an investigation of those factors which have an impact on international audit planning. Specifically, the objective of this study was to examine the factors which have been identified in the literature and to identify those issues which are most important to planning decisions of international internal auditors.

Forty-four information factors were obtained from the literature and evaluated and grouped by a panel of international internal audit experts. The evaluations and groupings were based upon the perceived relative importance of the factors to the preliminary planning process of an international internal audit. Magnitude estimation was used to determine the experts' perceived relative importance of the 44 factors and proved to be an effective means of evaluating factors. This process produced four general categories of planning information:

(1) audit scope;

(2) the firm's external operating environment;

(3) communications; and

(4) auditors' working and social environment.

These general categories, and the individual factors included therein, should be of use to international auditors in audit planning decisions and, it is hoped, serve as a basis for further work in this important area.

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The Internationalization of Accounting Standards: Past Problems and Current Prospects

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Abstract: *The search for international accounting standards continues. Several groups are contributing to the process. The most prominent is the International Accounting Standards Committee which has issued nearly 30 international accounting principles. Despite these results, concerns as to the validity and worth of the harmonization process remain. A lack of a structured theoretical accounting framework underlying the specific standards, a multiplicity of permitted reporting and reporting alternatives introduced in the issued standards, a tendency to address only those issues developed or related to advanced economic evironments, and a lack of enforceability have all been mentioned. Problems of acceptance and enforcement of these international standards remain. To be accepted, the international accounting standards must recognise the existence of domestic requirements and needs of individual nations to assure that international standards are representative and responsive to all the countries and not simply to the larger members of the standard setting group.*

The topic of international accounting standards is thought to have received the most attention in recent international accounting literature, with approximately half of the papers written addressing this issue.[1] Moreover, interest in the subject is not circumscribed to only a few institutions. Most (Ref.2, p.10) identified a variety of organizations involved in the international accounting standard-setting process. They include intergovernmental groups such as the United Nations (UN), the European Economic Community (EEC), and the Organization for Economic Co-operation and Development (OECD); professional accounting bodies, such as the International Accounting Standards Committee (IASC), and the Union of

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European Accountants (UEC); and regional accounting associations, such as the Arab Society of Certified Accountants (ASCA) and the Confederation of Asian and Pacific Accountants (CAPA).[3] Among these groups, the most prominent and prolific in setting standards has been the IASC, which has issued 29 international accounting principles and a comprehensive accounting framework for financial statements since its formation in 1973.[5]

Attempts to harmonize accounting standards at the international level began in 1966 when accountants from the United States, Canada, and the United Kingdom formed the Accountants International Study Group (AISG). Subsequently, a group of nine countries, including the member countries of the AISG, constituted the IASC, the multinational accounting organization that now includes 98 professional accounting associations from 74 countries. Also important in this process of international accounting standardization has been the International Federation of Accountants (IFAC), an organization that developed parallel to the IASC and currently has the same membership. Distinct from its twin institution, the IFAC has focused exclusively on the issuance of international guidelines which deal with auditing, ethics, and accounting educational requirements.

Notwithstanding the amount of interest in this area of international accounting standardization, doubts about the validity and worth of this harmonization process remain. Even though the number of accounting standards issued by the IASC is substantial (29 official pronouncements), their recognition and general acceptance is still an unrealized goal (see, for instance, Ref.7). The IASC's attempts at accounting harmonization have been unsuccessful because of the following observable conditions:

(1) lack of a structured theoretical accounting framework underlying the issuance of specific standards,[8]
(2) a multiplicity of permitted reporting and recording options introduced in the current standards,
(3) a tendency to address only those issues developed in or related to advanced economic environments where sophisticated markets and information prevail, and
(4) lack of enforceability of those international standards at the local and international levels.

Because of all these conditions, the persistent variety of inherent accounting practices in different geographical settings remains.[10] These conditions have divided academicians and practitioners alike between those who support harmonization at the international level and those who consider it a futile exercise.

Support for Standardization

There is a general consensus that a world-wide standardization of accounting principles could benefit users of financial information which originates in different geographical locations (see, for instance, Ref.12). Mason[13] identified 10 types of beneficiaries from international standardization. Increasing the comparability of financial reports of companies from different countries is another reason to support standardization.[2,14] In general, the interests of the investor as a user of financial information must be met.[15] The recent expansion of international capital markets and the availability of instantaneous global communications have placed on accounting the onus to provide useful and comparable information across international borders.

The demand for the international standardization of accounting principles stemmed from a need for information by the capital markets in developed countries and in accounting problems arising from a corporation's foreign operations.[16] Even with the proliferation of accounting statements by the IASC, many still perceive the absence of international accounting standards to be a fundamental problem. Studies by Scott[17] and Scott and Troberg[18] found that a group of accounting experts from different countries placed the lack of international accounting standards as sixth in a list of 88 problems in international accounting.

Standardization of accounting principles internationally is more of a harmonizing than a uniformity process. Nobes and Parker[19] considered harmonization as a process of making diverse accounting principles from different countries more compatible. The issue is also related to principles of accounting for private enterprises, exclusive of those for governmental entities in a centrally planned economy.

Arguments Against Harmonization

Even though the general trend in the literature supports harmonization some significant arguments have been advanced against that process. Both practical and theoretical considerations are mentioned as reasons for discouraging the standardization of accounting principles internationally (see, for instance, Ref.20, pp.100–108). The main argument is that socioeconomic and cultural differences between countries that cause the objectives of those countries' accounting systems actually or potentially to be different (Ref.21, pp.23–28; Ref.22), will always exist.[23] Thus the harmonization of accounting standards in different countries would tend to fail.

Choi and Mueller[21] identified numerous environmental variables that affect accounting development. For example, the degree of sophistication of a country's capital market affects business information requirements. Few of the less-developed countries have a structured capital market. The specific ownership structure of business enterprises constitutes another variable. In some countries, ownership is widely spread among investors who are normally absent form managing the business. In other countries, ownership and management fall to the same individuals. The need for disclosure and the emphasis on agency theory, so common in the more developed countries, are not a concern in many developing nations.

At the national level, unresolved questions remain on the objectives of accounting, and on the standards themselves, if any have been issued. A strong argument against the standardization of international accounting principles proposes that the conditions in developing countries differ from those in the developed nations. Because the process of standard setting has been predominantly controlled by the developed countries, the less-developed nations complain of not having enough participation in the process.[24]

The question remaining is whether a need for international accounting standards really exists, especially because lack of compliance with the international accounting rules has not impeded the development of international financial markets and foreign operations. Even before the IASC was formed, Most[27] found that when comparing financial statements of U.S. and European companies, a skilled analyst could find the information useful. Using financial statements of five leading chemical companies from five different countries to prepare a ratio analysis, he observed that European financial reports were comparable to those published in the United States. In the same vein, Choi and Bavishi[28] examined 1000 financial statements from public corporations with headquarters in 24 countries. A major finding of their comparison of the set of foreign companies with those based in the United States was that the fundamental differences in accounting standards among the countries sampled were not as extensive as expected. Also, using a sample of 26 foreign companies registered with the Securities and Exchange Commission (SEC), Meek[29] detected that responses in U.S. share prices were similar when the earnings announcements occurred, whether those earnings were measured with foreign or U.S. generally accepted accounting principles (GAAP).

Harmonization of International Accounting Principles by Intergovernmental Organizations

Both the UN and the OECD have studied the activities of transnational corporations (TNCs). The UN has shown concern with the divergent accounting and reporting practices TNCs follow and with the lack of comparability in the information they disclose. The Group of Experts on International Standards of Accounting and Reporting, an *ad hoc* unit appointed by the UN Centre on Transnational Corporations, seeks the harmonization of accounting practices and disclosures to meet user needs, particularly the needs of users in the developing countries. The Group of Experts has issued a few objectives upon which accounting standards could be built (Ref.11, pp.4–5). However, most of the work of the Centre on Transnational Corporations on the subject of accounting standards has consisted of a description of the development of accounting practices and standards in different countries.[11,30,31] Even though the intention of the UN and its Group of Accounting Experts is to formulate lists of minimum requirements of corporate financial information and disclosure, they have opted to reserve that task for private professional groups.

An important intergovernmental body involved in the establishment of international accounting standards is the European Economic Commission. This regional group attempts to harmonize accounting practices in the 12 member countries of the EEC through its Fourth and Seventh Directives. On a supranational level, this is the only organization at present capable of enforcing its accounting norms. According to the EEC parliamentary agreements, its member nations must enact the appropriate laws to implement the accounting methods and standards contained in the Commission's Directives.[32] With the upcoming elimination of trade barriers among the 12 members of the EEC in 1992, a surge in the harmonization of accounting policies and practices in that region is expected to develop. Whether those EEC directives would be compatible with the IASC pronouncements or with accounting standards in non-EEC countries is still uncertain.

The Record of the IASC: Many Pronouncements and Few Endorsements

The IASC has been successful in publishing 28 pronouncements and in attracting new member countries since its inception in 1973. Unfortunately, the IASC's standards are not enforceable and have not yet received "generally accepted" status world-wide.

The model under which the IASC operates is strongly influenced by the accounting practice of developed countries, particularly the United States. Hall[34] observed that the IASC was created under the tutelage of a few dominant countries, especially the United States, the United Kingdom and, to a lesser extent, West Germany and The Netherlands. There was the patronizing assumption that the standards from these developed countries could be adapted to other countries, particularly those in the Third World. Attempts to transplant elaborate principles to environments where different conditions prevail make the accounting standards process questionable and often inefficient. Thus, recent subjects addressed by the IASC's principles, such as those dealing with pension accounting and leases, are superfluous for countries where capital-lease transactions are not practiced.[35] Even the IASC has been self-critical when stating that in the past, it "tended to follow the developments in standard-setting that have taken place in countries where the regulatory environment and the accounting profession are well developed" (Ref.26, p.16)

Evidence of a strong dependent relationship between the IASC's standards and the accounting principles (GAAP) issued in the United States is provided by the comparative analysis presented in the Appendix. It should be noted that only two of the 28 international standards advanced by the IASC – IAS 20: Accounting for Government Grants, and IAS 29: Financial Accounting in Hyperinflationary Economies – had not been preceded by a U.S. accounting pronouncement which dealt with the same subject matter and arrived in general at the same acceptable methods and procedures. The fact that the AICPA has found very few and only minor differences between the IASC's standards and U.S. GAAP[25] corroborates the perceived relationship between those two sets of accounting principles.[36]

Additionally, the harmonization of international accounting standards that the IASC has tried to achieve has been limited because flexibility is ingrained in its outstanding pronouncements. In a search for the intrinsic uniformity of international accounting standards, Rueschhoff[37] found that flexibility is permitted in the international standards, just as flexibility is present in the U.S. GAAP in a number of cases. Most[2] found that in eight of the 24 international standards issued up to 1984, i.e., in one-third of the standards, alternative solutions were permitted. Similarly, Choi and Bavishi[28] found that eight of the initial 16 standards issued by the IASC permit alternative accounting treatments, and hence allow flexibility.

The IASC has recognized the impediments to improved harmonization caused by the free choices of accounting treatment permitted for similar transaction or events in its current international standards. The flexibility introduced in those standards was probably an attempt to accommodate the variety of treatments that existed in reporting standards already adopted by developed countries.[38] In an effort to ameliorate the problem of the observance of international accounting standards in the future and thus aim for wider comparability of financial statements, the IASC has proposed amendments to 13 of its existing standards.[6] The changes would eliminate choices of treatments and/or prescribe preferred solutions whenever options cannot be dismissed. Reporting companies which opt for an allowed alternative would need to disclose information reconciling the effect of the alternative selected against the one considered as preferred.

The Problem of Enforcement of IASC Standards

The degree to which IASC standards are observed world-wide is generally discouraging. In a few countries, such as Cyprus, Malawi, Malaysia, and Zimbabwe, where the accounting profession is relatively young, the international accounting standards (IAS) generally have been incorporated into the official local accounting principles (Ref.26, pp.9–12). For other countries, such as Fiji, India, Kenya, and Singapore, the principles issued by the IASC serve as a basis for the formulation of local accounting rules (Ref.26, pp.12–14). Still only in exceptional cases do particular firms make reference to compliance with IAS in the financial statements. Likewise, reference to IAS in the auditors' reports of published financial statements of these countries is missing. It is evident that professional accountants must abide by existing accounting standards at the local level, and that the power or persuasion to incorporate the use of and reference to IAS has not materialized into disclosure of their observance.

Because of the large number of options permitted in the published IAS, the actual level of agreement with IAS is conceivably substantially higher than the level of disclosure of that compliance. In an effort to test the use and application of its international standards, in 1987 the IASC conducted a survey among its member bodies from 70 countries (see Ref.26). Results of this survey showed that in most of the responding countries, the national requirements or accounting practice conformed with 23 of the 25 IAS then outstanding (Ref.26, p.3). The two exceptions corresponded to IAS 14 and IAS 15, which deal with segmental information and with information to reflect the effect of changing prices, respectively.

A close scrutiny of the IASC's survey results provides additional evidence that its standards have accommodated accounting principles in effect in a few of the developed countries. The responses received from the United Kingdom, Canada, the United States, France, Belgium, and Japan indicated the highest level of conformity between the standards developed there and those promulgated by the IASC[39] (Ref.26, pp.21–69). This would imply that, at least on issues such as those covered by IAS, a good level of accounting harmonization has been achieved in those countries. Therefore, the development of standards to mirror those where agreement already exists would be a redundant task. Nonetheless, the apparent high level of conformity may be the result more of the flexibility allowed by the IASC's standards than of the actual correspondence of accounting rules and practices among those countries surveyed.

Whatever power of enforcement the IASC could have possessed, it has diminished substantially through time. When the IASC was founded, its members agreed to use their best endeavors and persuasive influence to ensure compliance with the standards. Each professional accounting association within the IASC was to ensure that the external auditors would satisfy themselves of the standards' observance and would disclose cases of noncompliance. Appropriate action was to be taken against any auditor who did not follow these recommendations. Later, revised wording of the agreement among members acknowledged that the IASC's pronouncements would not override the standards followed by individual countries. In the most recent version of the agreement, dated October 1982, the members' obligation is to use "their best endeavors to ensure that financial statements comply with the IAS in all material respects and disclose the fact of such compliance" and "to ensure that auditors satisfy themselves that the financial statements comply with those standards in all material respects" (Ref.25, Appendix). However, the earlier requirement that auditors should disclose the extent of noncompliance and refer to it in the audit report is no longer present. Actual observance of the IASC's standards is very difficult to document in practice because very few companies make reference to them in their financial reports. For instance, although the International Stock Exchange of the United Kingdom and the Republic of Ireland permits foreign companies to file financial statements that comply with IAS rather than with the British ones, disclosure of that fact is still very rate (Ref.25, p.77). The exception to the norm is Canada, where efforts undertaken by the organized accounting profession have led to a widespread practice of listed companies disclosing their observance of IAS.[40]

To assess the extent of references to IAS in published financial statements, a search for these disclosures was performed, using financial reports compiled by the National Automated Accounting Research System (NAARS). The sample included approximately 22 600 documents filed during the years 1983–1988. The sample comprised entities that were listed companies traded in the major U.S. stock exchanges or in the over-the-counter market. The results of this analysis, as reported in Table 1, reveal that disclosures of compliance with IAS are extremely limited. Although this type of disclosure is increasing, on average only 14

Table 1. References to IAS in Published Financial Reports

Name of company or institution	Country	Years covered and type of disclosure												Total cases	
		1983		1984		1985		1986		1987		1988			
		F	M	F	M	F	M	F	M	F	M	F	M	F	M
1. Alcan Aluminum, Ltd.	Canada		x		x		x		x		x		x		6
2. AICPA	U.S.A.	x		x		x		x						4	
3. Bell Canada (BCE)	Canada	x		x		x		x		x		x		6	
4. Bow Valley Industries, Ltd.	Canada	x					x		x		x		x	1	4
5. CPC Intl. Corp.	U.S.A.										x		x		2
6. Campeau Corporation	Canada							x		x				2	
7. Dominion Textile Inc.	Canada							x	x	x	x	x	x	3	3
8. Echo Bay Mines, Ltd.	Canada			x		x		x		x				4	
9. Elscint, Ltd.	Israel					x								1	
10. Exxon Corporation	U.S.A.						x	x		x		x		3	1
11. FMC Corporation	U.S.A.								x		x		x		3
12. Gandalf Technologies	Canada											x		1	
13. General Electric Co.	U.S.A.				x		x		x		x		x		5
14. Hudson Bay Mines, Ltd.	Canada				x						x				2
15. Imperial Oil, Ltd.	Canada	x		x		x		x		x				5	
16. Interhome Energy, Inc.	Canada											x		1	
17. IFAC[a]	U.S.A.			x						x		x		3	
18. Interprovincial Pipe Line, Ltd.	Canada	x		x		x		x		x				5	
19. McIntyre Mines, Ltd.	Canada	x		x										2	
20. Montedison, SPA[a]	Italy									x				1	
21. Northern Telecom, Ltd.	Canada	x		x		x		x		x		x		6	
22. Page Petroleum, Ltd.	Canada	x		x		x		x						4	
23. Texaco Canada, Inc.	Canada			x		x								2	
24. Transcanada Pipeline, Ltd.	Canada	x	x	x	x		x	x	x	x	x		x	4	6
25. Union Gas, Ltd.	Canada									x	x			1	1
26. Velcro Industries, Ltd.	Neth. Antilles							x		x				2	
Cases per type/year		9	2	11	4	9	5	12	6	13	9	7	7	61	33
Total companies/year		10		14		14		16		19		13			

[a]Case reported included a reference to IAS compliance in the auditor's report.

F = Footnote in financial statements.

M = Included in the text of the management report.

Source: Annual files from the National Automated Accounting Research System (NAARS) for the years 1983-1988, comprising ca. 22 600 financial reports.

financial statements have alluded to IAS every year.[41] In general, the references reported in footnotes have outnumbered those included in the management report by a margin of two to one. As for the country of origin of the disclosing companies, 17 of those 26 reporting firms were incorporated in Canada. Only four U.S. companies referred to IAS during the 6-year period examined. With the exception of one Italian company, no mention to IAS was found in the auditor's report of the corporate financial statements reviewed.

Criticism of the IASC's Standard-Setting Process

A basic criticism of the IASC is that it has not paid sufficient attention to the objectives of financial accounting and reporting in an international context. The IASC's focus has been more on legitimizing certain practices already tried in influential, developed economies. Initially, the IASC (Ref.42, para.6–10) recognized the following three fundamental assumptions in accounting: (1) going concern; (2) consistency; and (3) accrual process, together with the following three governing "considerations" in the preparation of financial information: (1) prudence; (2) substance over form; and (3) materiality.[43] However, the viability of assumptions such as these has not been tested under different economic environments. Assessment of the applicability of standards on materiality, prudence, cost–benefit, and relevance under varying conditions of inflation, unemployment, exchange controls, absence or inefficiencies of capital markets, and similar factors has not yet occurred.

The internationalization of accounting principles has suffered from a lack of synchronization between the issuance of standards at the national level in difference countries and the formulation of standards by the IASC. Based on the type of subjects covered, it seems that the IASC follows those undertaken by the Financial Accounting Standards Board (FASB), as can be inferred from the analysis of corresponding standards presented in the Appendix. In itself, the IASC's process for formulation of accounting principles is very similar to that followed by the FASB, its U.S. counterpart. Thus, for each standard, an exposure draft invites comments from interested parties. Further, an international standard in its definite form requires the approval of at least two-thirds of the members of the steering committee before its final release to the membership for implementation.[44]

The first standards from the IASC were basic and simple, and largely noncontroversial. Later they became more complex, with attempts to deal with problematic subjects in vogue in the leading accounting countries. Some researchers stated that the IASC is generally reluctant to issue a standard that conflicts with U.S. or U.K. principles (Ref.45, p.31). This implies that the task of standard setting cannot remain politically neutral. Both the IASC and the U.S. FASB have been categorized as political bodies whose standards are those appropriate for industrial countries with a large private sector and a well-developed capital market.[46,47] Most of the IAS issued probably have been made deliberately flexible so as not to upset any of the leading accounting countries. This produces more confusion in a profession already overburdened with an overload of standards and multiple accommodating options that hinder comparison and harmonization.

Shortcomings of Past Research

Smith and Shalchi[48] have signalled a lack of rigorous methodology and analysis in international accounting research. Many of the international accounting papers are descriptive and show an excessive concern with one aspect of the problem, namely, the harmonization of accounting principles. The research undertaken in this area is generally not supported by theory or paradigms but depends rather on subjective opinions. The studies have been of the fact-finding, data-collection type, and the results have not been sufficient to conclude with confidence whether recommendations or statements made by the researchers constitute the "best" alternative. It is still not possible to determine whether current harmonization attempts such as those of the IASC, lead to better investment decisions or whether a uniform accounting system, such as that of France, facilitates national economic planning and true harmonization.

Much of the literature on international accounting has concentrated on describing the methods used in a particular country or comparing them with those used elsewhere. Another popular topic, the classification of countries into groups according to their accounting practices or economic features, provides logical comparisons but has not produced normative research (Refs.22;49;50, pp.15–19). Even the more scientific approaches of discriminant and factor analyses for classification of countries have been criticized for using a secondary, inefficient empirical base.[51] In any event, the classification of accounting practices using sophisticated techniques has accentuated the reasons for international differences in accounting and has challenged the rationale for harmonization.[52]

Toward a Research Agenda for the Future

No apparent agreement exists on the objectives of the international standards-setting process, and serious research on this subject has good potential. Worldwide, at least 20 national standard-setting organizations or boards exist, with very little interaction and synchronization among them.[53] The area of standards harmonization demands better answers on its validity and future direction. A cost–benefit assessment of the international standards process could produce interesting research results. Also, although some research of the descriptive–comparative type[54] has been conducted, the subset of international auditing standards and practices holds promising research potential.

The level of financial reporting reached in a particular environment depends on two main forces, namely, the needs of the users and the interest of corporations in supplying the information that is demanded. At the international level, the information needs of users in different environments is yet to be defined, thus opening an area for potentially interesting research. The information needs of users as distinct from shareholders and lenders, and the impact of these needs on the nature of accounting standards constitute another area for research.

The process of harmonization could operate at lower levels of aggregation, apart from the attempts at global standardization that have been proven far from successful. As a practical solution, the classification of countries could be used to create standard-setting organizations for those regions of the world identified as homogeneous. This process could function with direct participation of the countries involved. At some point, some basic, but, it is hoped, useful, standards could be formulated at higher levels of national aggregates. Gray et al.[1] advanced this idea of segmenting the area where international standards of accounting should be applied. They discussed the use of standards by only multinational corporations as a desirable alternative to the IASC's approach.[55] To date, the IASC's standards have been destined for application to all companies without distinguishing those that are uninational from those multinational firms – an essential distinction. Research endeavors which deal with these alternatives could produce interesting findings.

In the area of international accounting, new approaches should be introduced, borrowing from other disciplines such as statistics or behavioral sciences, as has already happened in other fields of accounting research. Attention should be turned also to issues of management accounting, particularly because in many countries the same individuals own and manage businesses. In Third World countries disclosure of accounting information for outsiders, on which the traditional accounting model has been based, is not common because there are essentially no capital markets.[56]

For empirical research, opportunities are plentiful in international accounting. So far, for instance, no research has asked U.S. investors who have passive investments in foreign companies what type of information would be useful for their decisions. The same kind of questions can be asked of foreign investors in U.S. companies. Determining a risk–return paradigm for such decision-makers is a subject worth investigation. Comparing their decision models with a standard used by a U.S. domestic investor could give support for more or less financial reporting uniformity on a world-wide or regional basis.

If a need for harmonization in international accounting practices were perceived, and assuming that harmonization efforts by the different organizations are not successful, other options could be identified through direct investigation. If the need for re-expression or adjustments of financial data to fit the particular needs of some decision-makers is essential, empirical analysis would help to determine whether it is worth producing. Perhaps the services of financial analysts or public accounting firms, either foreign- or U.S.-based, are already filling the gap.

If the harmonization of international accounting practices and standards is proven to be theoretically unsustainable, consideration of the need for and availability of other types of business information is in order. The traditional accounting information model should then be set aside and instead other indices should be built on market, management, or risk considerations more susceptible to measurement and international comparisons.

The areas for research mentioned here must be addressed through rigorous research techniques, if for no other reason than to provide evidence to critics of international accounting that this area has achieved the mature status it deserves.

Summary

More than a decade of efforts by an array of organizations in the development of international accounting standards has not produced the world-wide harmonization of accounting and reporting practices that was intended. As proven many times, the financial reporting process must attend to domestic requirements of information, which derive from the specific economic, legal, and cultural circumstances encountered in each geographical location. Often the standard-setting apparatus within specific countries lacks sufficient consensus and support from the professional groups involved in standards implementation. This is understandably so because the process is commonly characterized as a political one, with the interested parties vying for a particular course of action concomitant with their interest. Normally, the local accounting professional associations are in charge of issuing accounting principles "generally acceptable" among their membership.

The most prominent of the accounting standard-setting bodies at the international level, the IASC, follows the structural pattern of the local accounting organizations. Composed of the professional accounting associations from 74 countries, it suffers from the same defects that have plagued the determination of accounting principles at the local level. In its attempts to be politically acceptable, the IASC has followed the practice of endorsing accounting principles applied in the leading accounting countries, mainly the United States. Flexibility has also been permitted in the accounting pronouncements to accommodate divergent practices in different nations or not to upset accounting as practiced in the leading influential economies. This approach produces a result that can hardly claim to advance "harmonization". Recent attempts by the IASC[6] to reduce the free choices allowed in the current international standards could provoke further reluctance of companies to comply. The distinction of preferred and allowed methods introduced in the proposed amendments[6] would burden those companies that choose the allowed options. In these cases, the reporting company would have to reconcile its financial reported data not only against the national accounting requirements, but also against those prescribed in the "preferred" method.

It is time to question through serious research the value of the harmonization of international accounting standards. Measuring the real benefits and costs of harmonization could provide clues to support or challenge the existence of institutions such as the IASC. Even though these organizations have issued general standards, they have failed to ensure observance and disclosures even among their member countries. Part of the reason might be that the peculiar economic and cultural characteristics of each country defy any attempt for a global harmonization of accounting principles. Essentially, it is not theoretically acceptable to envision a set of accounting standards without previously defining a fundamental core of accounting theory with basic postulates. The IASC has only recently amended this mistake through the issuance of a theoretical accounting framework.[9] Whether this is the basic accounting theory acceptable on a world-wide basis remains questionable. Assuming that these basic postulates are proven operational in different geographical settings, the review and implementation of international accounting standards might have better chances of success.

Finally, perhaps a more realistic option is to seek regional harmonization. This could develop from the classification of countries into homogeneous economic or cultural regions where common accounting standards have a better chance of being observed. Perhaps institutions such as the IASC should be only guiding mechanisms or clearing houses of the accounting principles, measurement, and disclosures as applied in different parts of the world.

Appendix. Accounting Standards Issued by IASC

IAS	Subject area and content	Issue date	U.S. GAAP	Subject area and content	Issue date
1	Disclosure of Accounting Policies. Three fundamental assumptions and three criteria given for selection and application of accounting policies. Disclosure of all policies required.	January 1975	APB Opinion 22	Disclosure of Accounting Policies. Requires disclosure of accounting policies selected among permitted alternatives.	April 1972
2	Valuation and Presentation of Inventories in the Context of the Historical Cost System. Inventories to be valued at lower of cost or net realizable value. Several methods permitted to report cost, including LIFO base stock and standard costing.	October 1975	ARB 43 (Chapter 4)	Inventory Pricing. Inventory Valuation at cost or lower-of-cost-of-market. Cost methods are FIFO, Average or FIFO.	June 1953
3	Consolidated Financial Statements. Defines relationship between investor and investee and degree of control for application of consolidation or equity methods. Cost method applied when no significant influence exercised by investor.	June 1976	ARB 51, and APB Opinion 18	Consolidation of Foreign Operations; and The Equity Method of Accounting for Investments in Common Stock. Provide criteria to apply consolidation, cost or equity methods to report investments in other entities.	August 1959 and March 1971 respectively
4	Depreciation Accounting. Discusses concept of depreciation and type of assets subject to depreciation accounting. Disclosures required include methods of depreciation, and useful lives of assets or depreciation rates used.	October 1976	ARB 43 (Chapter 9c) and APB Opinion 12	Depreciation Concepts, Methods and Disclosures.	June 1953 and December 1967 respectively
5	Information to be Disclosed in Financial Staements. Identifies the balance sheet, income statement, notes and other statements and explanatory material as part of the financial statements. Lists specific items and groups of accounts for presentation in the statements.	October 1976	ARB 43 (Chapters 2 to 9)	Discusses the main elements comprising a set of comparative financial statements and the applicable methods to recognize, report and classify them.	June 1953

IAS	Subject area and content	Issue date	U.S. GAAP	Subject area and content	Issue date
7	Statement of Changes in Financial Position. Considers the statement of changes in financial position as integral part of financial statements. Funds provided from or used in the operation should be disclosed separately. Funds broadly defined to be cash, cash and cash equivalents, or working capital.	October 1977	APB Opinion 19	Reporting Changes in Financial Position. Concept of Funds to mean working capital or cash. Funds from or used for operations to be disclosed separately from other sources and uses.	March 1971
8	Unusual and Prior Period Items and Changes in Accounting Principles. Gains/losses from unusual transactions or events should be separately disclosed within the income statement. Prior period adjustments reported either in retained earnings or in current income. Effect of changes in accounting estimates can be accounted in the current or in both current and future periods.	February 1978	APB Opinion 9 and SFAS 16	Treatment of Extraordinary Items and Prior Period Adjustments. Accounting treatment and disclosures for prior period adjustments, changes in accounting principles, and effects of changes in accounting estimates.	March 1971 and June 1977 respectively
9	Accounting for Research and Development Activities. Lists typical items included in research and development costs. These costs are charged as expenses in the period when they are incurred. Development costs may be deferred to future periods if certain criteria for ensuring future benefits are satisfied.	July 1978	SFAS 2	Accounting For Research and Development Costs. Defines activities that constitute research and development and the cost elements associated with them. All research and development costs should be charged to expenses when incurred.	October 1974
10	Contingencies and Events Occurring After the Balance Sheet Date. Dictates accrual of contingency losses if contingent future event is probable, and if a reasonable estimate of the loss can be made. Contingency gains are not to be accrued. After balance sheet events require adjustment of the balance sheet if related to conditions	October 1978	SFAS 5	Accounting for Contingencies. Establishes criteria to help define if a loss contingency exists and if actual and/or disclosure in the financial statements should proceed.	July 1975

IAS	Subject area and content	Issue date	U.S. GAAP	Subject area and content	Issue date
11	Accounting for Construction Contracts. Permits the recognition of income through a percentage of completion or a completed contract method, establishing the conditions under which one or the other method applies.	March 1979	ARB 45	Long-Term Construction-Type Contracts. Income from construction contracts recognized under a percentage of completion or a completed contract approach, depending on the conditions of the contractual operation.	October 1955
12	Accounting for Taxes on Income. Prescribes tax expense which should be recorded according to tax effect accounting, using the deferral or the liability method. Effect of timing differences to be included in deferred assets or liabilities, unless no reversal is foreseeable in at least 3 years ahead.	July 1979	APB Opinion 11	Accounting for Income Taxes. Income tax expense calculated on reportable pre-tax accounting income. Resulting timing differences are included in deferred taxes receivable or payable. Includes accounting for loss carry-back and carry-forward.	December 1967
13	Presentation of Current Assets and Current Liabilities. Decision to present the classification of current/non-current assets and liabilities in the financial statements is left to the enterprise. Typical items to include among the current assets/liabilities group are listed.	November 1979	ARB 43 (Chapter 3)	Current Assets and Current Liabilities. Criteria to define the current/non-current attributes of an asset or liability. Corresponding disclosures.	June 1953
14	Reporting Financial Information by Segment. Disclosure of material line-of-business and geographical segments for firms whose securities are publicly traded. For each reportable industry or geographical segment, sales, profit, assets and inter-company pricing should be disclosed. Materiality of a segment to trigger its disclosure is set at 10% of consolidated total sales, profits, or assets.	August 1981	SFAS 14	Financial Reporting for Segments of a Business Enterprise. Requires disaggregated information by line-of-business or geographical units for segments of a firm representing 10% or more of the company's consolidated sales, profits, or assets. The existence of major customers, representing 10% or more of total sales, should also be reported.	December 1976

IAS	Subject area and content	Issue date	U.S. GAAP	Subject area and content	Issue date
15	Information Reflecting the Effects of Changing Prices. Superseded IAS 6. Applies to businesses whose levels of revenues, assets, profits or employment are significant in their environment. Information adjusted for price changes can be prepared though price indices or current cost methods. Disclosures are in the form of supplementary data, unless the firm routinely presents that information in the primary financial statements.	November 1981	SFAS 33[a]	Financial Reporting and Changing Prices. Applies to public enterprises of a given material size as defined in the standard. Supplementary information to reflect effect of changing prices on selected items, plus the current cost of inventories, property plant and equipment.	September 1979
16	Accounting for Property, Plant and Equipment. Carrying value of an asset in property, plant and equipment is historical cost or revaluation amount. General guidelines for acquisition of assets through asset exchanges are established. Revaluation of assets is permitted, provided the difference between revalued amount and cost is directly reported in shareholders' equity.	March 1982	FASB Concept 6	Elements of Financial Statements. Replaced FASB concepts statement No. 3, thus extending the theoretical concepts supporting valuation and reporting of the items in the financial statements.	December 1985
17	Accounting for Leases. Provides general guidelines for the accounting and disclosure of operating and finance leases for both the lessee and the lessor. Finance leases are classified into sale-type or strict financing ones. Sale and lease-back option is also covered.	September 1982	SFAS 13	Accounting for Leases. Leases classified into operating and capital types, according to criteria that focus on the substance of the transaction. Capital leases can be sales- and financing-types. Disclosures for the lessee and the lessor are discussed. Accounting treatment for sale–leasebacks is included.	November 1976

[a] SFAS 82 eliminated reporting of price-level adjusted data when current cost information was supplied. Further, the FASB made only voluntary the reporting of SFAS 33 disclosures.

IAS	Subject area and content	Issue date	U.S. GAAP	Subject area and content	Issue date
18	Revenue Recognition. Establishes criteria to recognize revenue from sales or service transactions. Recognition of service revenue is permitted under the completed contract or percentage of completion methods.	December 1982	ARB 43 (Chapter 1A and 8)	Recognition of revenue and gains as part of realization and matching concepts.	June 1953
19	Accounting for Retirement Benefits in the Financial Statement of Employers. Definitions of current and past service costs, vested benefits, funding, actuarial methods, accrued and projected benefits, etc., are introduced. Gives guidelines for the accounting and reporting of a defined benefit plan in the financial statements of the employer.	January 1983	SFAS 36	Disclosure of Pension Information. Requires revised disclosures of defined benefit pension plans in the financial statements of the employer. The disclosures include the present value of the accumulated plan benefits, and the funded assets for the pension plan obligations.	May 1980
20	Accounting for Government Grants and Disclosure of Government Assistance. Government grants are to be included in the income statement. Recognition is during the period(s) when the corresponding costs intended to be compensated with the grant are incurred.	April 1983		No corresponding standard is available.	
21	Accounting for the Effects of Changes in Foreign Exchange Rates. Provides guidelines to account and report transactions involving foreign operations. Exchange differences from intercompany monetary items are to be reflected in shareholders' interests. Exchange rate differences from long-term monetary items can be deferred, or recognized in current income.	July 1983	SFAS 52	Foreign Currency Translation. Superseded SFAS No. 8. Introduces the concept of "Functional Currency" to translate foreign operations to a reporting currency, using current exchange rates. Translation adjustments are accrued in a separate component of consolidated shareholders' equity. Special treatment is applied to translating foreign operations from a subsidiary operating in highly inflationary environments.	December 1981

IAS	Subject area and content	Issue date	U.S. GAAP	Subject area and content	Issue date
22	Accounting for Business Combinations. The general treatment for a business combination is to account it under the purchase method. If combination is deemed a uniting of interests, the pooling of interests method may be applied. Differences between the cost of acquisition and fair values of the assets acquired can be recognized in income or adjusted to shareholders' equity. Positive goodwill arising in the acquisition should be recognized as a deferred asset.	November 1983	APB Opinion 16	Business Combinations. Considers the purchase method and the pooling of interest method as acceptable approaches to account for business combinations. The combination must meet specified criteria to be treated as a pooling of interest case. For acquisitions considered purchases, if cost of acquisition exceeds the fair value of net assets bought an amortizable goodwill is recorded.	August 1970
23	Capitalization of Borrowing Costs. Borrowing costs should be capitalized as part of the cost of an asset up to the point in time when the asset is ready for its intended use or sale.	March 1984	SFAS 34	Capitalization of Interest Cost. Standards for capitalizing the interest cost as part of the acquisition cost of an asset. Interest is for the period required to complete the asset. Interest cannot be capitalized for inventories that are routinely manufactured.	October 1979
24	Related Party Disclosures. After identifying who constitutes related parties, full disclosure is called for transactions involving the reporting enterprise and the related party.	July 1984	SFAS 5	Related Party Disclosures. Establishes the required content for disclosures of material related party transactions. Excludes compensation arrangements, expense allowance and similar items from the obligation to disclose.	March 1982
25	Accounting for Investments. Valuation and disclosure rules are stated for both short-term and long-term investments in securities. Accounting is for investments in securities different from those reportable under consolidation or equity methods. Long-term investments in tangible assets are also covered.	April 1986	SFAS 12	Accounting for Certain Marketable Securities. Provides standards for accounting and reporting investments in marketable equity securities, including the resulting gain or loss from their valuation and disposal.	December 1975

IAS	Subject area and content	Issue date	U.S. GAAP	Subject area and content	Issue date
26	Accounting and Reporting by Retirement Benefit Plans. Addresses the disclosures needed in reports by defined retirement benefit plans. The report should disclose net assets available for benefits, present value of the promised retirement benefits, and the resulting excess or deficit between those two items.	January 1987	SFAS 35	Accounting and Reporting by Defined Benefit Pension Plans. Establishes guidelines for supplying information relevant to the status of the plan. Disclosures must include net assets available in the plan, present value of accumulated benefits, and changes affecting the actuarial computations of the accumulated plan benefits.	March 1980
27	Consolidated Financial Statements and Accounting for Investments in Subsidiaries. Relates to the preparation and reporting of consolidated financial statements for parent and subsidiaries. Control needed to proceed with consolidation is presumed if the investor owns more than 50% of the voting shares of the investee.	April 1989	SFAS 94	Consolidation of All Majority-Owned Subsidiaries Requires consolidation of all majority-owned subsidiaries on substantially all cases, except where control is likely to be temporary or when special circumstances preclude control by the majority owner.	
28	Accounting for Investments in Associates. Modifies IAS 3 in relation to investments in associated companies under the equity method. It is assumed than an investor holding 20% or more of the voting stock of the investee has "significant influence" over the investee's policies and decisions to require reporting under the equity method.	April 1989	APB Opinion 18	The Equity Method of Accounting for Investments in Common Stock. Provides guidelines in using the equity method for investments where the investor, not having majority control, exercises significant influence on the investee. Significant influence is presumed if investor holds 20% or more of the investee's voting stock.	March 1979
29	Financial Reporting in Hyperinflationary Economies. Requires enterprises reporting in the currency of a hyperinflationary economy to restate the primary financial statement to account for changes in the domestic price levels. Gains or losses resulting from the adjusted net monetary position should be included in net income.	April 1989		No corresponding standard is available (for a related item, see IAS 15 and the corresponding footnote to SFAS 33).	

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2. K.S. Most. *International Conflict of Accounting Standards, A research Report* (Vancouver: The Canadian Certified General Accountants' Research Foundation, 1984).
3. A similar list and discussion of the actors involved in this process was presented by Belkhaoui (Ref.4, pp. 57–84).
4. A. Belkhaoui. *International Accounting. Issues and Solutions* (Westport, CT: Quorum Books, 1985). 57–84.
5. The Appendix presents a list of the accounting standards issued by the IASC, with a brief description of their content and a cross-correspondence to U.S. accounting principles which address similar subject matters. In addition to the standards issued, there are currently three IASC Exposure Drafts (E) outstanding, namely, E32: Comparability of Financial Statements;[6] E33: Accounting for Taxes on Income; and E34: Disclosures in the Financial Statements of Banks and similar Financial Institutions.
6. IASC. E32 Exposure Draft. *Comparability of Financial Statements* (New York: AICPA, Product G00392, 1989).
7. D.T. Hayes. "The International Accounting Standards Committee: Recent Development and Current Problems," *International Journal of Accounting* (Fall 1980), 1–10.
8. The recent accounting framework prepared by the IASC[9] is expected to provide the basis needed to develop international accounting standards in the future.
9. IASC. *Framework for the Preparation and Presentation of Financial Statements* (London: IASC, 1989)
10. A survey conducted by the UN (Ref.11, pp. 21–64) on 42 of its affiliated members exemplified the diversity of accounting principles followed by the countries surveyed.
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18. G.M. Scott and P. Troberg. *Eighty-eight International Accounting Problems in Rank Order of Importance – A DELPHI Evaluation* (Sarasota, FL: American Accounting Association, 1980).
19. C.W. Nobes and R.H. Parker. *Comparative International Accounting* (Oxford: Philip Allan, 1981).
20. J.M. Samuels and A.G. Piper. *International Accounting: A Survey* (New York: St. Martin Press, 1985).
21. F.D.S. Choi and G.G. Mueller. *An Introduction to Multinational Accounting* (Englewood Cliffs, NJ: Prentice-Hall, 1978).
22. W.G. Frank. "An Empirical Analysis of International Accounting Principles," *Journal of Accounting Research* (Autumn 1979), 593–605.
23. The variety of social, economic, and legal circumstances as causal factors for differences in financial statements across countries has been acknowledged by the IASC (Ref.9, Preface).

24. Although the operating structure of the IASC calls for a policy preferably to include a minimum of three developing countries in its 13-member Board (see IASC Objectives and Procedures in Ref.25, p.11 053) only one developing country (Jordan) is currently included. In addition, only the U.S. standard-setting type of institution (The Financial Accounting Standards Board) is a representative in the IASC's 10-member Consultative Group (Ref.26, Appendix 2).
25. AICPA (American Institute of Certified Public Accountants). International Accounting and Auditing Standards (New York: AICPA, 1988).
26. IASC.; *Survey of the Use and Application of International Accounting Standards* (London: IASC, 1988).
27. K.S. Most. "How Bad are European Accounts?" in K.B. Berg, G.G. Mueller and L.M. Walker (eds.) *Readings in International Accounting* (Boston: Houghton Mifflin, 1969) 208–222.
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29. G.K. Meek. "U.S. Securities Market Responses to Alternate Earnings Disclosures of Non-U.S. Multinational Corporations," *The Accounting Review* (April 1983), 394–402.
30. UN (United Nations Centre on Transnational Corporations). Towards International Standardization of Corporate Accounting and Reporting (New York: United Nations, 1982).
31. UN. *International Accounting and Reporting Issues: 1985 Review* (New York: United Nations, (1985).
32. Rueschhoff[33] analyzed similarities and differences between the IASC's and the EEC's pronouncements as well as between the IFAC's and the UEC's statements and guidelines.
33. N.G. Rueschhoff. "European Accounting and Auditing Standards: A Comparative Study with International Standards and Guidelines," in V.K. Zimmerman (ed.), *The Recent Accounting and Economic developments in Western Europe* (Champaign, IL: University of Illinois, Center for International Education and Research in Accounting, 1985), 91–114.
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35. As another example, in many countries – particularly those in Latin America – the severance payment to an employee upon dismissal or retirement is a totally different construct from pension benefits as thought of in the United States.
36. The trend is apparently continuing, because two of the three IASC's exposure drafts outstanding and one under study – on financial instruments – have also been in the agenda of the FASB.
37. N.G. Rueschhoff. "The Intrinsic Uniformity of International Accounting Standards," in K.S. Most (ed.), *Advances in International Accounting*, Vol. 1 (Greenwich, CT: JAI Press, 1987), 23–38.
38. As an example, IAS 9 on Accounting for Research and Development allows development costs to be either expensed (as required in U.S. GAAP) or deferred if certain conditions are met (as dictated in the U.K. standards).
39. For the countries listed, conformity in all material respects was reported for 17 or more of the 25 standards issued. On the other hand, the West German and Swiss accounting requirement did not conform to those advanced by the IASC in 18 and 15, respectively, of the 25 standards checked.
40. The recent IASC (Ref.27) survey states that in 1987, from a sample of 129 companies listed in the Toronto Stock Exchange, 102 disclosed such compliance.
41. In most cases, referral to IAS consisted in stating that the financial statements have been prepared according to the generally accepted accounting principles of the particular country, and that such principles were in conformity, in all material respects, with IAS.
42. IASC (International Accounting Standards Committee). International Accounting Standard. IAS 1. Disclosure of Accounting Policies (London: IASC, 1975).
43. The assumption of consistency is absent in the new framework developed by the IASC. The "considerations" have been broadened and renamed "qualitative characteristics of accounting information" (see Ref.9).
44. Details of this process are described in the IASC's Objectives and Procedures (Ref.24, pp. 11 051–11 057)
45. H. Benson, "Establishing Standards Through a Voluntary Professional Process Across National Boundaries," in J.C. Burton (ed.). *The International World of Accounting, Challenges and Opportunities, 1980 Proceedings of the Arthur Young Professors' Roundtable* (Reston, VA: Arthur Young, 1981), 27–48.
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50. G.G. Mueller, H. Gernon and G. Meek. *Accounting: An International Perspective* (Homewood, IL: Irwin, 1987).
51. C.W. Nobes. "An Empirical Analysis of International Accounting Principles: A Comment," *Journal of Accounting Research* (Spring 1981), 268–270.
52. C.W. Nobes. *International Classification of Financial Reporting* (London: Croom Helm, 1984).
53. L.A. Daley and G.G. Mueller. "Accounting in the Arena of World Politics: Crosscurrents of International Standard-setting Activities," in F.D.S. Choi and G.G. Mueller (eds.), *Frontiers of International Accounting, An Anthology* (Ann Arbor, MI: UMI Research Press, 1985), 157–170.
54. B.E. Needles, Jr. *Comparative International Auditing Standards* (Sarasota, FL: American Accounting Association, 1985).
55. The proposal that harmonization should apply only to companies with international dimension has also been suggested by Nobes (Ref.52, p. 96).
56. Although academicians and practitioners have discussed topics of managerial accounting, these have been approached from the standpoint of the multinational corporation's interest only.[57]
57. V.K. Zimmerman (ed.). *Managerial Accounting: An Analysis of Current International Applications* (Champaign, IL: University of Illinois Center for International Education and Research in Accounting, 1984).

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Attitudes of CPAs in Israel Toward GAAP for Closely Held Corporations and Small Business

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Key words: Small businesses; Closely held corporations; Attitude of CPAs to GAAP; Inflation adjusted accounting data; Decision-making process

Abstract: *This paper evaluates the attitude of certified public accountants (CPAs) toward Generally Accepted Accounting Principles (GAAP) for small businesses (SBs) and closely held (CH) corporations in Israel. The paper goes beyond cited studies in the United States by explaining CPAs overall attitude toward GAAP for SB and CH corporations based on a small number of explicatory perceptions. In Israel most of the corporations are CHSBs and all corporations are required to have audited financial statements; compliance with GAAP is mandatory for an unqualified audit opinion. In addition, the Israeli environment is highly inflationary and the tax burden is heavy. All of these factors make Israel an excellent laboratory for studying GAAP for SBs and CH corporations. The motivation for such a study stems from the need to corroborate the findings of US studies and from the question of whether the results from the United States can be generalized to different environments. A nonparametric discriminant model, which is novel to the accounting domain as well as to analysis of questionnaires, and nonparametric tests are used because the data are ordinal. An application of the nonparametric discriminant analysis is presented in this study and compared with parametric analyses such as regression and discriminant analysis models. The findings indicate that three variables explain a significant part of CPA's overall negative attitude; the extent of use of GAAP in SBs and CH corporations, the degree of awareness and relevance to owners of use of GAAP in SBs and CH corporations, and the contribution of GAAP to the decision-making process in such businesses. CPAs attitudes to taxation, adjustments to inflation and most other perceptions are found to be insignificant.*

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The issue of the desirability of separate accounting standards for small businesses (SBs) and closely held (CH) firms from those of large firms has received significant attention during the 1970s and 1980s. The purpose of this exploratory study is to evaluate the attitude of CPAs toward Generally Accepted Accounting Principles (GAAP) for SBs and CH firms in Israel. In Israel most of the corporations are CHBs[1] and all corporations are required to have audited financial statements; compliance with GAAP is mandatory for an unqualified audit opinion. In addition, the Israeli environment is highly inflationary and the tax burden is heavy. All of these factors make Israel an excellent laboratory for studying GAAP for SBs and CH corporations. The motivation for such a study stems from the need to corroborate the findings of US studies, and from the question of whether the results from the United can be generalized to different environments.

The focus of this paper is on smaller and/or CH corporations. In Israel, CH firms are defined as those where (1) stock is held by less than 51 investors, (2) stock is not available for sale to the public, and (3) some restrictions apply on share transfers. CH corporations are usually smaller than those traded on the Tel Aviv Stock Exchange (TASE); they constitute over 90 percent of the corporations in Israel and nearly 60 percent of the CPA's clients (which also include sole proprietorships and partnerships).[2] Israeli regulations govern the disclosure on financial statements by publicly traded firms, and the set of GAAP issued by the Israeli Institute of Certified Public Accountants (IICPA) applies to all firms. Moreover, there is a large overlap of the regulations with the IICPA pronouncements. Because smaller and/or CH corporations usually are also SBs, the term Closely Held Smaller Business (CHSB) is used in this paper.[3]

The controversy over the usefulness of GAAP for CH firms and SBs, and the interpretation of these principles by auditors and users (e.g., owners, potential investors or creditors) are discussed in the first part of this paper. The impact of GAAP for CHSBs on CPAs' perceptions is evaluated in the second part. The two main subjects reported in this study are CPAs' attitudes and a comprehensive analysis of these attitudes. The survey methods and analytical method sections precede the reporting of results, to clarify the application of specific nonparametric methods used in this study. Thus, the overall attitude of the auditors is reported. Attitudes of CPAs in Israel are compared with attitudes of CPAs in the United States, where the inflation and tax issues, although relevant, are less crucial. The major dimensions that explain the negative attitude of Israeli CPAs on these issues are then explored.

Nonparametric model and nonparametric tests as well as standard parametric models are presented in the analytical method section, because the data are ordinal in nature. Such methods were not used in previous studies on GAAP for SBs. Thus, to find the perceptions (variables) which explain a significant part of the CPAs' overall attitude, a nonparametric discriminant analysis is introduced. This model is compared with parametric techniques such as discriminant analysis and ordinary least-squares regression. As both the overall attitude and the explanatory variables are qualitative and ordinal in nature the use of standard parametric models is unwarranted. The parametric models are used only as indicators for robustness of the standard techniques (e.g., regression analysis). Whether the results obtained by the nonparametric models are similar to those obtained by the standard parametric techniques is also examined. The underlying assumptions and the qualitative and quantitative characteristics of the techniques are presented in the analytical method section and the Appendix.

Motivation for the Study

Abdel-Khalik et al. and the related Financial Accounting Standards Board (FASB) special research report surveyed bankers, managers and accountants by using a questionnaire and conduction explanatory interviews in the United States. The research findings indicate that these groups perceive cost-benefit considerations differently from each other. In these and other studies, questionnaires were also administered to nationwide samples of CPA practice offices in the United States. An attempt was made to examine practice problems in applying generally accepted accounting standards and statements on auditing standards to SBs. CPAs expressed concern at the lack of relevance and the overall cost-benefit deficiencies. Recommendations aimed at helping practitioners resolve questions on auditability and internal accounting control were presented.[4] Mosso developed a rationale to explain the problem of standard overload:

(1) many GAAP procedures are developed for large public companies and investors in the securities market;
(2) small private companies do not have public securities;
(3) therefore some GAAP requirements are not relevant for small private companies; and
(4) even when they were relevant, the cost to small companies of some GAAP requirements exceeds the benefits.[5]

This study addresses the question of generalization of the US results to different environments and seeks to corroborate the US findings. Furthermore, different tests are conducted to explain the overall attitude of CPAs toward GAAP for CHSBs, using other perceptions as explanatory variables, and using nonparametric statistical procedures. A brief comparison between results in the United States and results of the present study is presented in Appendix 2.

Formal Construct and Hypothesis

In this section a formal construct for the research question is developed. This model leads to the hypothesis that GAAP for smaller firms should be less elaborate than for large firms.

g_i is GAAP set i, $g_i \in \{G\}$ where G denotes the set of all possible GAAPs. When g_i and g_{i+1} are compared, g_{i+1} is more elaborate than g_i Accordingly, the information-processing costs $c(g_{i+1})$ are greater than $c(g_i)$:
$c(g_i) < c(g_2) < \dots < c(g_n)$

These processing costs are assumed to be the same for all the firms in the industry. The information from g_i is denoted by $\eta\,(g_i)$. The processing costs, $c(.)$ are increasing in g and $\partial c\,(.)/\partial g > 0$. The informativeness of $g\,(i)$, $\eta\,(.)$, increases in g and $\partial\eta\,(.)/\partial g < 0$. It is assumed that there are two sizes of firms in the economy: small firms and large firms. Further, it is assumed that $\partial\,[\eta_L(g_i)]\,/\partial g_i > \partial\,[\eta_S g_i)]\,/g_i$, where L denotes large firms and S denotes small firms.

For each firm the optimal GAAP, g^*, is found by solving

$\text{Max}_g\ \eta\,(g_i) - c\,(g_i)$

which yields the first-order condition

$\partial\eta\,(.)/(g_i) = \partial c\,(.)/\partial\,(G_i)$

When S and L type firms are compared,

$\partial\eta_S\,(.)/\partial\,(g_i) < \partial\eta_L(.)\ \partial g_i$

whereas

$\partial c_S\,(.)/\partial\,(g_i) = \partial c_L(.)/\partial\,(g_i)$.

Hence $g_S{}^*$ will be less elaborate than $g_L{}^*$.

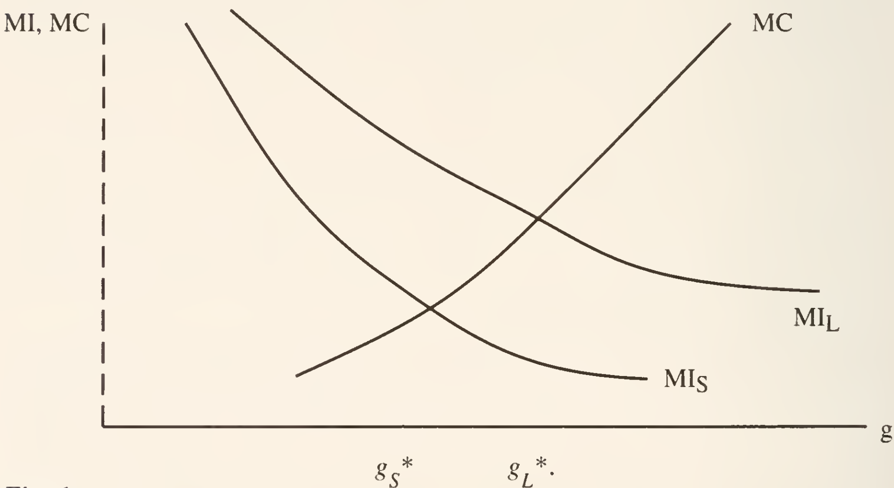

Fig. 1.

This is depicted in Fig. 1, where MI denotes marginal information, $\partial\eta\,(.)/\partial g$, and MC denotes marginal costs, $\partial c\,(.)/\partial g$.

Based on this analysis, the GAAP set for small firms should be less elaborate than for large firms because of the cost-benefit constraint. Assuming that CPAs are aware of this situation, the following hypothesis is stated.

Hypothesis

Attitudes of CPAs on GAAP for small firms are determined by the informational benefits of GAAP for users. Accordingly, the perceived optimal GAAP for small firms will be less elaborate than for large firms.

Other Relevant Issues

This study focuses on the attitude of Israeli CPAs toward GAAP in CHSBs. It does not intend to provide evidence on the attitude of other groups or to assess whether GAAP information is actually useful to other groups; therefore, these issues are discussed only briefly here. These issues either extend the conceptual approach, or they are presented because attitudes of other groups are similar to the Israeli CPAs' attitudes (e.g., on cost-benefit issues and inflation adjusted accounting).

In the United States the issue of standards overload for SBs and CH corporations has been addressed three times by the American Institute of Certified Public Accountants (AICPA) special committee and by the AICPA technical issues committee. In the early 1980s the FASB addressed the issue and twice invited comment.[6] All these reports have also addressed the issue in terms of cost-benefit analyses, information relevance and burdens imposed on SBs by the GAAP.[7] Falk et al. surveyed chief commercial lending officers concerning audited financial statements of CH firms. Inflation accounting and several other items are viewed as relatively unimportant. San Miguel and Stephens and Campbell provided further findings.[8]

In Israel all corporations must have their financial statements audited by a CPA. The disclosures are in accordance with GAAP, and CHSBs are not exempted from the requirements. The issue of required statement disclosure for SBs and CH firms in now being addressed by a special committee of the IICPA. Eden (1983) discussed the problem, and suggested the tax basis alternative as a possible solution for CH corporations. Price-level adjusted balance sheet and income statement are required as the major part of the financial statement by recent statements of the IICPA (SIICPA) No 36[9]. However, CHSBs are exempted from disclosing inflationary adjusted information, e.g., only CH corporations with annual sales (turnover) equivalent to at least $10 million are required to present fully adjusted financial statements.

Research Focus and Survey Method

This study is concerned with attitudes of CPAs towards GAAP for CHSBs. The distinction between CPAs' perception and reality is also emphasized, and questionnaires were used to gather the necessary information.

Survey Sample and Research Instrument

A sample of 200 CPA practice offices was randomly selected. Only one CPA in each selected CPA firm was requested to provide a response. The sample covers about a third of the CPA practice offices in Central Israel (Tel Aviv area); i.e., almost a quarter of the nationwide population of CPA offices. Most of the CPA practicing firms in Israel are small and include one or two auditors. Over two-thirds of the CPA offices in Israel are owned by sole practitioners, and in approximately 90 percent of the practicing offices there are one or two professional CPAs. A two-part questionnaire which consists of 48 items was mailed. Several questionnaires were returned due to incorrect addresses, reducing the sample to 176; further inquiries indicated that most of these CPA offices were owned by sole practitioners who had either moved to managerial positions or changed addresses.

Fifty-eight practice offices responded, but 10 responses were not usable; most of these 10 CPAs reported that they had been sole practitioners who closed their offices then moved to managerial positions or retired and thus felt that they were not qualified to answer the questionnaire. In addition, 18 CPAs completed responses to the major items after follow-up phone calls. The response rate was thus 43 percent (based on 176 questionnaires), and 33 percent of the sampled CPAs responded before the follow-up phone calls. This response rate approximates that achieved in some earlier studies.[10] A possible non-response bias problem may exist, but as indicated in our analysis the non-response is unlikely to have affected empirical results.[11]

One CPA in each selected CPA firm was requested to provide his perceptions on GAAP in CHSBs on a Likert seven-point scale,[12] ranking from highly positive

Table 1. Perceptions of CPAs Towards GAAP in CHSBs

Y	Overall attitude toward GAAP in CHSBs	Excellent 1	2	Neutral 3	4	5	Negative 6	7
X_1	Wide usefulness by CHSB (usefulness)	Very wide 1	2	Partly applied 3	4	5	Almost not in use 6	7
X_2	Application and relevance SBs versus large firms (application and relevance)	Much wider 1	2	Identical 3	4	5	Narrower by a large degree 6	7
X_3	Degree of awareness and relevance to owners (awareness)	Aware to a large degree 1	2	Neutral 3	4	5	Not aware 6	7
X_4	Importance of taxation aspects to owners (taxation)	GAAP is most important 1	2	The same 3	4	5	Taxation is most important 6	7
X_5	GAAP contribute to the decision-making process (decision-making)	Stongly agree 1	2	Neutral 3	4	5	Strongly disagree 6	7
X_6	Degree of benefit and use by owners (benefit to owners)	Very high degree 1	2	Unknown or neutral 3	4	5	None at all 6	7
X_7	Benefits to potential and/or actual creditors (benefit to creditors)	1	2	3	4	5	6	7
X_8	Benefits to potential investors (benefit to investors)	1	2	3	4	5	6	7
X_{6d}, X_{7d}, X_{8d}	Adjustment for inflation: benefits to owners, creditors and potential investors, respectively (3 questions)	1	2	3	4	5	6	7

The categories for variables $X_6 - X_8$ are identical.
A question in the questionnaire (benefits from services of CPAs) is not included in analysis because it is presented for information purposes.

to strongly negative, with point 4 being neutral. The research also requested the perceptions of CPAs toward the issue. A major concern is which variables (perceptions) explain the overall attitude. The variables are presented in Table 1, together with the categories (1-7 scale).[13] These variables are identified by short descriptions which are used throughout the discussion.

Analytical Method

This section explains the nonparametric discriminant analysis and other multivariate methods. The usable data are analyzed by several methods. The responses are evaluated and classified and then separately analyzed by categories and percentages. The hypothesis that for certain perception items the distributions of the responses are identical is tested against the alternative hypothesis that distributions differ (in centers). The null hypothesis (H_0) that CPA have the same distribution of ranks across responses (perceptions) is discussed in a later section.[14]

The major result, explaining the overall attitude of the CPAs, using their other perceptions, is analyzed by a nonparametric discriminant approach. The results are compared, using multidiscriminant analysis (MDA) and multivariate linear regression, which assume interval scaled data. The nonparametric discriminant analysis (NPD) is explored in this section; the two other statistical methods are fairly standard analytical tools, and thus are discussed only briefly. Moreover, it can be argued that there may be problems in MDA and regression analyses, because the data are ordinal scaled information. Maddala and others discussed the use of discrete regression models usually when the dependent variables are qualitative.[15]

MDA enables the establishment of prediction, classification, and separation rules, and provides statistical inference from the results. The classification rules are optimal under the following assumptions:

(1) the distributions are multivariate formal with each group;

(2) the covariance matrices of the groups are equal; and

(3) the vectors of means, the covariance matrices and the prior probabilities are known.[16]

Prior probabilities and cost of misclassifications are of minor relevance to this analysis because it focuses mainly on separation and assessment of the relative significance of individual variables. The classical MDA is based on choosing combination of variables which maximize the ratio of the between-group to the within-group variances. Thus the classical procedure maximizes the following expression (or some modification of this expression):

$\{S^2 \text{ (between-groups)}/S^2 \text{ (within-groups)}\}$ (1)

where S^2 is the variance.

The NPD is based on searching for an optimal linear combination which yields minimum overlapping between the groups of observations. The measure to be maximized is a separation rule which obtains the lowest overlapping among the distributions of scores of the M groups. Some assumptions and properties of the NPD are:

(1) assumptions of specific parametric distribution are not required, thus it is a distribution-free method;
(2) ordinal as well as interval data can be treated and exogenous qualitative variables are also applicable;
(3) there are no requirements for symmetric (normal) distributions or equality of the covariance matrices;
(4) the method is optimal for non-overlapping distribution of scores obtained from the M groups; and
(5) the number of misclassifications is always less than or equal to that obtained by the MDA procedure;
(6) only one NPD function may be obtained for M groups; and
(7) very different initial guesses may yield the same index of separation, whereas MDa is based on a uniquely explicit solution.

A formal discussion of the NPD may be found in Appendix 1.

Survey Results and Discussion

Classification of Responses

The overall attitude of CPAs toward the use of GAAP in CHSBs is moderately negative. These results are presented in Table 2, which also includes the evaluation of GAAP for CHSBs by several variables – questions (see discussion in note 12). Approximately 57 percent of the CPAs believe that the overall effect of GAAP on accounting for CHSB is weak or negative; only 14 percent indicate the opposite; and 29 percent are neutral. The mean rating and standard deviation are indicated for each perception, as well as the rating for major categories in the scale. Reports of perceptions by different variables are presented in this section. There seems to be a belief within the sample that GAAP in CHSBs is applied fully only by a few firms, and GAAP applications are less extensive in CHSBs as opposed to large firms. CPAs somewhat disagree that GAAP contributes to the decision-making process in CHSBs: 75 percent disagree with the statement that GAAP contributes to the decision-making process in CHSBs, approximately 17 percent agree, and 8 percent are neutral.

The results indicate that CPAs in Israel consider that taxation aspects are more important to owners of CHSBs than the application of GAAP. The complexity and the burden of the tax system may have caused the CPAs to become more tax-planning oriented, a factor that might affect their attitudes. This result may be unique to the Israeli environment.CPAs rank the benefits of GAAP for potential investors and creditors of CHSBs more positively than the other variables. The average benefits for potential investors and creditors are rated between partially beneficial and neutral. These results are shown in Table 2.

Table 2. CPAs' Ratings of Perceptions

Variable		Mean rank	Standard deviation	Consolidated scale (total 100%) Categories 1 – 3	Neutral 4	Categories 5 – 7
Y	Attitude	4.77	1.21	14%	29%	57%
X_1	Usefulness	4.44	1.45	23	26	51
X_2	Application and Relevance	5.47	1.15	5	8	87
X_3	Awareness	5.97	1.24	15	15	70
X_4	Taxation	6.59	0.58	0	0	100
X_5	Decision-making	5.15	1.43	17	8	75
Benefits to:						
X_6	Owners	4.74	1.41	23	17	60
X_7	Creditors	3.74	1.39	48	27	25
X_8	Investors	3.33	1.31	62	17	21
Adjustment for inflation						
X_{6d}	Owners	5.17	1.55	18	11	71
X_{7d}	Creditors	4.59	1.68	26	22	52
X_{8d}	Investors	3.80	1.69	49	18	33

The impact of inflation on the Israeli economy has shifted the emphasis in financial reporting from historical cost to certain adjustments for inflation. The disclosure of these adjustments is based on general price-level accounting, SIICPA No. 23 and SIICPA No. 36. The balance-sheet is presented in SIICPA No 36, based on full adjustment to the change in the purchasing power of the Israeli currency (Shekel). A condensed balance-sheet and detailed income statement based on historical shekels are recorded as notes. However, CHSBs with annual sales of less than $10 million are exempted from these inflation disclosure statements. The SIICPA No. 23 is equivalent, but narrower in scope than Statement of Financial Accounting Standards (SFAS) No. 33 in the United States. Falk et al. and Campbell found that price-level adjusted information is viewed by lenders as relatively unimportant for CH corporation in the United States.[17]

The benefits from inflation accounting are considered by Israeli CPAs as less important for the owners and creditors of CHSBs and more important for potential investors in CHSBs. Although the annual rate of inflation was over 100 percent in the years 1979-1985, CPAs do not perceive inflation adjusted information as beneficial to most users of CHSB's financial statements. The results are shown in the last three lines of Table 2. Approximately 71 percent of the CPAs in the sample believe that GAAP inflation accounting is not beneficial to the owners of CHSBs. On the issue of benefits to outsiders, 52 percent regard GAAP inflation accounting as not beneficial for creditors, and 36 percent think it is beneficial. However, 49 percent view GAAP inflation accounting as beneficial for potential investors in CHSBs, whereas 33 percent indicate the opposite. Finally, mixed evaluations of benefits to users are also found for the application of the statement of changes in financial position to CHSBs.

In conclusion, by a margin of 4.1 to 1, CPAs in Israel consider the overall effect of GAAP on accounting for CHSBs to be weak or negative. By a ratio of 4.4 to 1, CPAs do not believe that GAAP contributes to the decision-making process in CHSBs, and by a margin of 4.6 to 1 they believe that owners are not aware of the relevance of using GAAP in the financial statements of CHSBs. Also, by a margin of 2.6 to 1, CPAs are dissatisfied with the benefits of GAAP financial statements to the owners of CHSBs; this is a substantial margin. However, by a ratio of 1.9 to 1, CPAs are satisfied with the benefits of Israeli GAAP financial statements to creditors of CHSBs. The margin is 2.9 to 1 in favor of GAAP when the benefits to potential investors of CHSBs are considered. Taxation burden and severe inflation are two issues which are unique to Israel; all the CPAs in the sample consider taxation aspects as more important than Israeli GAAP applications to the owners of CHSBs. Inflation adjustments are perceived as not beneficial to owners and creditors by margins of 3.9 to 1 and 2.0 to 1, respectively. However, by a ratio of 1.5 to 1, CPAs perceive these adjustments as beneficial to potential inventors. Other questions aimed at shedding further light on the background of CPA offices in Israel are included in the questionnaire, but are not analyzed in this study.

Relative Ranking Differences

CPAs' perceptions of certain items are compared to find differences in relative rankings. The Friedman repeated measures test and the matched-pair Wilcoxon test are used because the data are qualitative and ordinal in nature. As explained

Table 3. Nonparametric Tests Across CPAs' Perceptions

Panel A: Friedman (two-way ANOVA)

1	Perception	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_{6d}	X_{7d}	X_{8d}
	Mean rank	5.6	7.6	6.4	10.0	6.9	5.7	3.7	3.0	7.0	5.7	4.4
	$\chi^2 = 227.5$; χ^2 (tie-corrected) = 256.9											
2.	Perception	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8			
	Mean rank	4.02	5.58	4.70	7.40	5.04	4.25	2.73	2.27			
	$\chi^2 = 201.5$; χ^2 (tie-corrected) = 228.2											
3.	Perception	X_1	X_2	X_3	X_5	X_6						
	Mean rank	2.05	3.17	2.50	4.54	2.74						
	$\chi^2 = 95.2$; χ^2 (tie-corrected) = 121.5											
4.	Perception	X_1	X_2	X_3	X_5							
	Mean rank	1.97	2.99	2.41	2.63							
	$\chi^2 = 21.7$; χ^2 (tie-corrected) = 30.5											

Panel B: Wilcoxon tests post-hoc comparisons

Perception	Z Scores				Other pairs	Z Score
	X_2	X_3	X_4	X_5		
X_1	−0.450	−2.80	6.50	−3.93	X_6 vs. X_7	−4.67
X_2		−2.67	−5.48	−1.46[a]	X_7 vs. X_8	−2.16
X_3			−6.40	−1.21[a]	X_6 vs. X_8	−5.56
X_4				−6.18	X_{6d} vs. X_{7d}	−2.71
					X_{6d} vs. X_{8d}	−5.35
					X_{7d} vs. X_{8d}	−3.60

[a] Insignificant 0.05

The results are derived by the Statistical Package for the Social Sciences (SPSS).

in an earlier section and in Appendix 1, these statistical tests are required to ascertain whether CPAs rank the various perceptions equally. The results are summarized in Table 3.

The null hypothesis (H_0) that CPAs have the same distribution of scores across perceptions is rejected when all 11 perceptions (variable) are included. Friedman's mean ranks are also provided in Panel A of Table 3. The analysis was repeated using the first eight perception items and using only five items, and the null hypotheses are rejected in both cases. Even when taxation is excluded and the variables include only usefulness, application and relevance, awareness, and decision-making (variables X_1, X_2, and X_5, respectively), the null hypothesis is rejected. Thus, it can be concluded that there are significant differences in the ranking of the various perceptions by CPAs.

Possible reasons for the rejections may be explained by post-hoc comparisons. Pair-matched Wilcoxon tests were used for planned comparisons. The results are summarized in panel B of Table 3. Most null hypotheses, that the means of scores are the same, are rejected. Only for two paired comparisons were the null hypotheses not rejected. It may be concluded that CPAs are similar in terms of ranking only when the decision-making perception was compared with application and relevance and awareness perceptions.

Attitudes of CPAs in the United States and Israel

In this section are compared and contrasted briefly results for the Israeli CPAs with those for the United States discussed in the first section. The overall attitude of CPAs toward GAAP for accounting in CHSBs is found to be moderately negative, whereas in the United States the overall attitude is moderately positive. GAAP in SBs are perceived as useful for owners, creditors and potential investors in the United States, but GAAP in CHSBs are not perceived as beneficial for owners and only moderately useful for creditors and potential investors in Israel. A detailed comparison between the Abdel-Khalik et al.'s study and this study is presented in Appendix 2.

Different specific items and standards are questioned in the various studies. Moderate satisfaction with relevance and usefulness of existing GAAP for SBs was found in several studies in the United States. However, very little satisfaction concerning relevance awareness and contribution of existing GAAP for CHSBs is demonstrated in Israel. In a few studies in the United States, CPAs express concern at the lack of relevance and cost-benefit deficiencies. Certain standards and items are not considered to be important by CPAs in either country. The statement of changes in financial position is not considered to be beneficial to owners and creditors in Israel, but was rated as of some importance in the United States.

Taxes and certain other standards were rated as irrelevant in CPAs in the United States.[18] However, taxation aspects were ranked as more important to owners of CHSBs than GAAP reporting by all the CPAs in our sample. This may be due to the Israeli environment, in which CPAs are more tax planning-oriented than CPAs in the United States and other developed countries. Adjustments for inflation are not ranked as beneficial to owners and creditors of CHSBs in Israel. These results might be considered unexpected, as very high inflation existed in Israel during the early and mid-1980s. Adjustments for inflation were not ranked as important issues in a few of the studies in the United States.

Explaining the Overall Attitude: Multivariate Analyses

In this section, an explanation for the moderately negative overall attitude of CPAs is developed, using other perceptions of the CPAs. Reporting of explanation of attitudes is presented in this section. NPD is used as a major method in the analysis.

The assessment of the explanatory power of CPAs' perceptions in explaining the overall attitude of CPAs toward GAAP in CHSBs as shown in Table 4, panel A. It is attempted to find a relationship between some perceptions about GAAP in CHSBs and the CPAs' overall attitude toward GAAP for CHSBs. As a first approximation, the results of regressing the overall attitude (Y, with seven scale categories) against a few independent variables are obtained. These results are obtained using a stepwise regression. The last six variables from Tables 1 and 2 are not significant in any of the analyses, and thus are not included in Table 4. A five-variable model explains 79 percent of the variability in CPAs' overall attitude toward GAAP in SBs (Y). However, only three variables: usefulness (X_1), awareness (X_3), and decision-making (X_5) are statistically significant. These three variables explain 78 percent of the variability of the overall attitude.

Two further analyses of regressing the overall attitude (Y) against the five dependent variables are also presented in Table 4, panel A. These analyses are included to compare the regression results with those results obtained by MDA and NPD. A scale with three categories: positive (0), neutral (1), and negative (2) is sued for the dependent variable (Y), whereas the independent variables have the same seven-point scale. A zero-One regression model is also examined, where the limited dependent variable is zero for positive and neutral responses (overall attitude to 1 – 4 in the scale) and a value of one is assigned where the responses are negative (overall attitude of 5 – 7). The explanatory poser is slightly reduced and only two perceptions are still significant. These results are shown in Table 4, Panel A.

The results of the MDA are presented in Table 4, panel B. The overall attitude is used as an indicator for group membership. The three-point and two-point categories are used, as determined in the previous paragraph. Thus, three-group and two-group discriminant models are used. Forward stepwise MDA is used. The same three variables – usefulness, awareness and decision-making – are statistically significant, whereas none of the other variables is significant.

Because the data are ordinal in nature, basic assumptions of the regression and the MDA are violated. Therefore, the NPD is presented in Table 4, panel C. All possible initial guesses for the NPD coefficients have not been used. It may be possible to use other initial coefficients for the same data, and more efficient coefficients might be produced. A few very different initial coefficients yield

Table 4. Multivariate Analyses

Panel A: Regression results

Variables	Y, 1 – 7 scale Coefficient	t-Value	Y, three categories Coefficient	t-Value	Y, two categories Coefficient	t-Value
X_1	0.380	4.31	0.750	2.78	0.068	1.50[a]
X_2	−0.111	−1.22[a]	−0.091	−1.39[a]	−0.049	−1.05[a]
X_3	0.277	2.99	0.107	1.60[a]	0.118	2.45
X_4	−0.064	−0.35[a]	−0.121	−0.94[a]	−0.101	−1.10[a]
X_5	0.256	3.28	0.193	3.46	0.131	3.28
Intercept	1.417	1.19[a]	0.428	0.50[a]	0.950	1.55[a]
R^2	0.790		0.681		0.642	
F	19.960		10.390		8.450	

Panel B: MDA results

	Y, Three groups coefficients Function I	Function I	Y, Two groups Univariate F	Coefficient	Univariate F
X_1	0.450	−0.72	14.77	0.275	18.74
X_2	−0.242	0.152	0.44[a]	−0.199	0.80[a]
X_3	0.319	0.865	9.31[a]	0.475	18.86[a]
X_4	−0.343	−0.422	0.08[a]	−0.410	0.04[a]
X_5	0.530	0.137	12.40	0.531	21.67
Constant	−2.742	−0.372		−2.530	
Eigenvalue	0.871	0.083[a]		0.704	
IS (W_5)	0.858			−0.904	

Panel C: Nonparametric (NPD) results

Variable	Three groups coefficient	Two groups coefficient
X_1	−1.221	−0.131
X_2	0.804	0.132
X_3	−0.488	−0.437
X_4	0.315	0.481
X_5	−0.315	−0.524
IS(W_5)	0.963	0.908

approximately the same solution, up to multiplication by a constant, and using the MDA coefficients as an initial guess guarantees that the NPD yields better or similar results in terms of separation and classification. The separation indices at the bottom of Table 4, panel C, indicate a considerable improvement *vis-à-vis* the separation indices of the MDA function. In conclusion, the NPD model correctly classifies a large number of CPAs and outperforms the MDA in terms of separation ability.

The Relative Contribution of the Perceptions.

It is difficult to isolate the relative significance of the individual variables in MDA and NPD, unlike linear regressions where the contributions of the individual variables are uniquely defined. In the case of MDA, Joy and Tollefson compared two criteria for assessment of the discriminatory power of the variables. The standardized coefficients were compared with the method suggested by Mosteller and Wallace. Detailed analyses of different methods were provided by Altman and Eisenbeis and Altman et al.[19]

Four different criteria for evaluating the contribution of the explanatory perception are proposed in this study. The first criterion is the t-test, which is applied to the linear regression model. The second criterion is that of univariate F-statistics; the third criterion is the stepwise forward selection method. The standards coefficients are obtained by weighing the coefficients by the square roots of the diagonal elements in the pooled within-group covariance matrix (the standard deviations of the distributions). The absolute values of the coefficients are used. This scaled vector procedure is denoted by $b_Q \sigma_Q$. Finally, the separation of means criterion is used as the fourth criterion, the weights of the coefficients by the group means being divided by the differences in the mean discriminant scores. Thus, for every variable,

$$|b_Q(X_1 - X_2)| / \sum_Q |b_Q(X_1 - X_2)|$$

is the procedure for two groups. The method is not readily applicable to more than two groups. As an approximation, the following procedure for three groups is applied for every variable:

$$|b_Q[(X_1 - X_2)(X_1 - X_3)(X_2 - X_3)]|^{1/3} / |\bullet|;$$

where

$$|\bullet| = \sum_{Q=1}^{p} |b_Q[(X_1 - X_2)(X_1 - X_3)(X_2 - X_3)]|^{1/3}$$

All four criteria are used for the MDA, whereas only the last two criteria are used for the NPD.

The rankings of the five major variables by the different criteria are shown in Table 5.

There is a considerable variation among the rankings. However, it is observed that the most important variables are usefulness (X_1), awareness (X_3), and

Table 5. The Relative Contribution of the Perceptions (Variables)

Regression				MDA 3 groups				MDA 2 groups				NPD 3 groups		NPD 2 groups	
Variable	1 – 7 scale	3 categories	3 categories												
	t	t	t	I	II	III	IV	I	II	III	IV	III	IV	III	IV
X_1	1	2	4^a	1	1	2	2	3	4	4	3	1	1	3	3
X_2	4^a	4^a	5^a	4^a	4^a	5	4	4^a	5^a	5	5	2	2	4	4
X_3	3	3^a	2	3	3	3	3	2	2	2	2	4	3	2	2
X_4	5^a	5^a	3^a	5^a	5^a	4	5	5^a	3	3	4	5	5	5	5
X_5	2	1	1	2	2	1	1	1	1	1	1	3	4	1	1

Order of importance by t-value for regression, and by:
I: univariate F-statistic;
II: forward stepwise;
III: scaled vector criteria, $|b_Q|$.
IV: separation of means criterion, $|b_Q(X_1 - X_2)| / |\bullet|$.
The last two criteria are also applied for NPD.
[a] Not significant at 0.05.

decision-making (X_5). In fact, the criteria show that taxation (X_4) is the least important variable, e.g., it explains less than 3 percent of the total contribution while the separation of the means criterion is applied for NPD and MDA.

The NPD is considered the appropriate separation model for the data. As noted in Table 5, the last two criteria may also be applied to the NPD models. These two criteria demonstrate identical ranking for two groups and similar ranking for three groups. Moreover, application and relevance (X_2), is observed as an important variable. Finally, the variables benefit to owners, creditors and investors ($X_6 - X_8$) and inflation ($X_{6d} - X_{8d}$) are the least important variables and appear as unimportant contributors. These variables are not shown in Table 5, because they are insignificant and explain less than 1 percent of the entire contribution.

In conclusion, the CPAs' overall moderately negative attitude toward GAAP in accounting from CHSBs is affected by the following perceptions:

(1) the extent of use of GAAP in CHSBs (X_1);
(2) the contribution of GAAP in CHSBs to the decision-making process (X_5); and
(3) owners' awareness of usefulness of GAAP in CHSBs (X_3).

The application and relevance by SBs versus larger firms X_2, also appears as an important perception. The most interesting and unexpected result is that taxation, X_4, and adjustments for inflation do not contribute to an explanation of the overall attitude of CPAs in Israel towards GAAP in CHSBs'; although taxation and inflation adjusted information are usually considered to be important in the Israeli economy. There are also indications that different statistical models (i.e., linear regression, MDA and NPD) provide about the same result, indicating robustness of the methods.

Summary and Conclusions

The overall attitude of CPAs toward GAAP in CHSBs in Israel is found to be moderately negative. CPAs slightly disagree with the statement that GAAP contribute to the decision-making process in CHSBs. They also believe that GAAP is applicable and relevant to CHSBs only in a narrow sense. They feel that owners of CHSBs are not aware of the usefulness and relevance of GAAP for CHSBs. CPAs also believe that large firms use GAAP more extensively than do CHSBs. On the issue of benefits to users, most CPAs indicate that the GAAP are not beneficial or relevant to the owners of CHSBs. However, they believe that GAAP are moderately beneficial for potential investors and creditors of CHSBs.

Taxation aspects and price-level adjusted information are unique attributes of the Israeli environment. Taxation is perceived as more important to owners of CHSBs than GAAP by all CPAs in the sample. Price-level adjusted information is viewed as relatively unimportant for owners and creditors, but perceived as slightly important for potential investors. The unexpected result is that neither taxation nor price-level adjustment explain the major result (negative overall attitude). Thus, neither perception affects the overall attitude of CPAs in Israel toward GAAP in CHSBs.

This study complements studies in the United States and provides insights into the attitudes of CPAs in a different environment. Several aspects differ from studies in the United States and a few results are in contrast to findings there. However, the results of this study confirm previous inquiries on CPAs' concern as to the lack of relevance and cost-benefit deficiencies of GAAP for SBs in the United States. These studies are comparable with the present study because GAAP in Israel and in the United States have many similar characteristics.

The study goes beyond the US studies by explaining the CPAs' overall attitude to GAAP in CHSBs in terms of a small number of explanatory perceptions. Nonparametric tests provide evidence that CPAs have different distributions of rank across perceptions. A nonparametric discriminant analysis is introduced because the data are ordinal in nature. Indications for robustness of the standard techniques are also presented. Three perceptions explain the overall moderately negative attitude of CPAs in Israel: usefulness, awareness and contribution to the decision-making process. Application and relevant perception has also some explanatory power. All other variables, including taxation and adjustments for inflation, are found to be insignificant.

Appendix 1

A population is assumed with M groups (each denoted by i, i=1,.., M) and

$$\sum_{i=1}^{M} n_i = N$$

observations. A coefficients vector denoted by $W_p{}'$ $(W_1,...,W_p)$ is assumed, and a linear combination of the original observations for p variables (CPAs' perceptions in this study) as

$$Z_{ij} = \sum_{Q=1}^{p} X_{ijQ} W_Q = W_p{}' X_p.$$

This linear combination is denoted as a score for observation j in group i (i=1, ..., M, and j=1,...n_i for each group) where W_Q is the coefficient of the Qth variable. p coefficients are sought which yield minimum overlapping among the M groups of scores.

Thus, an index of separation IS(W_p) is obtained, with the objective of maximizing the following expression:

$$\mathrm{IS}(W_p) = \frac{\sum_{g=1}^{N-1} \sum_{h=g+1}^{N} (Z_{kh} - Z_{lg})\, \gamma_{kl}}{\sum_{g=1}^{N-1} \sum_{h=g+1}^{N} \mid (Z_{kh} - Z_{lg}) \mid \gamma_{kl}} \qquad \text{(2a)}$$

where g and h are observations and γ_{kl} (in this study) is equal to l if observation g belongs to group k and observation h belong to group l, $M \geq l > k \geq l$; otherwise

$\gamma_{kl} = 0$. In this extreme case when $M = N$ (and there are M groups with one observation in each group) the index of separation is given by

$$IS(W_p) = \frac{\sum_{g=1}^{N-1} \sum_{h=g+1}^{N} (Z_{kh} - Z_{lg})}{\sum_{g=1}^{N-1} \sum_{h=g+1}^{N} | (Z_{kh} - Z_{lg}) | \gamma_{kl}} \qquad (2b)$$

It is always maintained in (2a) or (2b) that

$$-1 \leq IS(W_p) \leq 1 \qquad (3)$$

$IS(W_p)=1$ if and only is $Z_{kh} \geq Z_{lg}$, where $Z_{kh} \in$ group k, $Z_{lg} \in$ group l, and $M \geq l > k \geq 1$. Thus, $IS(W_p) = \pm 1$ implies that there is no overlapping between the distribution of scores of the M groups, there is maximum separation, and there are no errors in classification.

In the case of two groups, the separation index can be written as

$$IS(W_p) = \frac{Z_1 - Z_2}{\frac{1}{n_1 n_2} \sum_{g \in 1} \sum_{h \in 2} | Z_{1h} - Z_{2g} |} \qquad (4)$$

where Z_1 and Z_2 are the mean scores of group 1 and group 2, respectively; observation g belongs to group 1 observation h belongs to group 2.

The NPD function of p-variable weights $W^{*\prime}_p = (W^*_1,\ldots,W^*_p)$ is found by maximization of $IS(W_p)$. This maximization process is solved in this paper by use of the Zangwill algorithm, which is a modification of the known Powel algorithm.[20] The algorithm requires an initial guess of the p coefficients and it is restricted to local maxima. In a possible initial guess, the coefficients obtained by the MDA or their signs multiplied by 1.0 can be used. Another initial guess might be the uniform vector $W_p = (1,1,\ldots,1)$ or $(-1,\ldots,-1)$, or based on the data properties.

Appendix 2. A Comparison between Abdel-Khalik's Study and this Paper

	Adbel-Khalik's	This paper
1. Major groups of users	Banker, managers, CPAs	CPAs
2. Economic environment	United States	Israel
3. Research tool	Questionnairs and interviews	Questionnaires[a]
4. Methodology analysis	Evaluative classification	Percentages Classification of responses and t-statistics of responses and non parametric discriminant analysis Multi-discriminant Analysis Regression analysis

Appendix 2 (continued). A Comparison between Abdel-Khalik's Study and this Paper

	Adbel-Khalik's	This paper
5. Specific standards and items which were questioned	1. Capitalization of leases 2. Capitalization of interest 3. Deferred taxes 4. Inventory 5. Pensions 6. Investments in related companies 7. Contingencies 8. Compensated absences 9. Statement of changes in financial position 10. Discounting of receivables and payables	1. & 2. Balance sheet and income statement as a whole in their present form 3. Statement of changes in financial position 4. Adjustment for inflation 5. All other footnotes to the financial statements 6. Taxation aspects
6. Major results regarding practitioners:		
Relevance of existing GAAP	General satisfaction	Very little
Overall attitude	Moderately positive	Moderately negative
Perceived importance to users	Useful for owners, creditors and potential investors	Not useful for owners, useful for creditors and potential investors

[a]Personal inverviews, calls and call-backs were used to deal with the effects of non-response.

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Footnotes

1. Only a few hundred firms may be considered as large or medium-sized corporations, the majority of these firms being publicly traded firms.
2. The Tel Aviv Stock Exchange (TASE) is the only organized bond and stock exchange in Israel. At the end of 1985 270 listed corporations were traded on the TASE. The average size of the manufacturing corporation traded on the TASE was $17.5 million and $14.5 million in assets size and sales, respectively. There is also a small group of non-CH corporations in Israel which are not traded and are owned by private investors. Thus, a few larger CH and non-CH corporations as well as a few small publicly traded firms which might be considered as SBs were excluded from this study.
3. Two criteria have been applied to define SBs. CPAs were asked in the questionnaire to state the maximum amounts of sales and total assets which qualify a business to be a member of the small business (SB) category. The mean (standard deviation) response was $540,135 ($549,212) and $214,323 ($268,302) for sales and total assets respectively. The two primary characteristics of SBs were considered to be concentration of ownership and limited segregation of business; see, e.g., D.D. Raiborn, D.M. Guya and M. Zulinski, "Solving Auditing Problems in Small Business Engagements," *The Journal of Accountancy* (April 1983) 50–58: SBs in this study are only perceived by size.
4. R.A. Abdel-Khalik, W.A. Collins, P.D. Shields, D.W. Snowball, R.G., Stephens and J.W. Wraggl, *Financial Reporting by Private Companies: Analysis and Diagnosis* (Stamford, CT: FASB, 1983); Financial Accounting Standards Board (FASB), *Financial Reporting by Privately Owned Companies: Summary of Responses to FASB Invitation to Comment* (Stamford, CT: FASB, 1983); D.D. Raiborn, D.M. Guya and M. Zulinksi, "Solving Audit Problems in Small Business Engagements," The Journal of Accountancy (April 1983) 50–58; and J.A. DeFatta and R. Chappell, "Retaining Small Business Clients," *The Journal of Accountancy* (June 1983) 46–50.

5. D. Mosso, "Standard Overload - no Simple Solutions," *The Journal of Accountancy* (November 1983) 120–138. The author outlined 10 accounting standards including those which are the most disliked. CPAs rated pension, taxes, discounting, and leases as complex and irrelevant for management and for outsiders' use.
6. American Institute of Certified Public Accountants (AICPA), *Report of the Committee on Generally Accepted Accounting Principles for Smaller and/or Closely Held Business* (New York: AICPA, 1976); AICPA, *Report of the Special Committee on Small and Medium-Sized Firms* (New York: AICPA, 1980); AICPA, *Report of the Special; Committee on Accounting Standards Overload* (New York: AICPA, 1983); AICPA - Technical Issues Committee, *Sunset Review of Accounting Principles* (New York: AICPA, 1982); *Financial Accounting Standards Board (FASB), Financial Statement and Other Means of Financial Reporting* (Stamford, CT: FASB, 1980); and FASB, *Financial Reporting by Private and Small Public Companies* (Stamford: FASB, 1981).
7. P. Arnstein, "Arnstein Onion," *The Journal of Accountancy* (December 1982) 83–84; M.M. Benis, "Rational Small Business Expectations to FASB Rules," *CPA Journal* (February 1978), 33–37; C. Chazen and B. Benson, "Fitting GAAP to Smaller Business," *The Journal of Accountancy* (February 1978) 46–51; A.E. MacKay, A speech presented at the New Jersey Society of CPAs and the Financial Executive Statements - A Cloud Dissent," *The Journal of Accountancy* (December 1972) 81–83; and J.H. Naus, "Unaudited Financial Statements Revisited," *The Journal of Accountancy* (January 1974) 77–79. In the United States, Arnstein, Benis, McGill and Chazen and Benson argued that financial statements and accounting standards for CH corporations or SBs should be different from GAAP. Naus and MacKay objected to the creation of a special set of standards for CH corporations and SBs. None of these authors provided empirical data or analyses in support of their onions.
8. J. Campbell, "An Application of Protocol Analysis to the Little GAAP Controversy," *Accounting Organization and Society* (Nos 3 and 4, 1984) 329–342; H. Falk, B.C. Gobdel and J.H.Naus, "Disclosure for Closely Held Corporations," *The Journal of Accountancy* (October 76) 85–89; J.C. San Miguel and R.G. Stephens, "Preference for Financial Information Among Users: Some Evidence and Suggestions for Research," *Quarterly Review of Economic and Business* (Winter 1982) 61–80. Falk et al. conducted a survey among chief commercial lending officers. Approximately 25 percent responded with usable data. Information pertaining to change in accounting methods, contingent liabilities and commitments, methods of inventories and statements of changes in financial position were found to be the more important items. Earnings per share (EPS), inflation accounting, numbers of employees and stockholders were viewed as relatively unimportant. San Miguel and Stephens found that lending officers and financial analysts provided similar responses in terms of rank order and information importance. However, for certain items there were very large differences in relative rankings. They found rough agreement in groups of rankings of information items. It appeared that disagreements are due to differences in type of company or size of bank. Campbell used protocol analysis to analyze the attitude of loan officers toward financial statements information of smaller CH firms. She found little or no evidence that earning per share, deferred income tax or inflation-adjusted information were useful to the subject in the research. Capitalized lease information, however, was useful in the experimental context.
9. D. Eden, "Increase in the Quantity of Professional Impositions – The Burden of Accounting Principles," Roeh Hahesbon *The Journal of the Institute of Certified Public Accountants in Israel* December 1983) 59–64; and Israeli Institute of Certified Public Accountants (IICPA), *Principles for Preparation of Financial Statements Adjusted for the Change in the Purchasing Power of the Shekel – The Israeli Currency* (Tel Aviv: SIICPA No. 36, 1985).
10. See J.S. DeFatta and R. Chappell, "Retaining Business Clients"; and Falk et al. "Disclosure for Closely Held Corporations."
11. Reminder forms that were mailed to all non-respondents approximately 2 weeks after the first wave of 35 questionnaires had been returned. An additional 23 questionnaires had been returned during the second wave. These 23 respondents were used as a surrogate for non-respondents. Thirty-four and 14 responses were usable from the first and second waves, respectively, and the separation was used for examining the non-response bias. The short period between the two waves might affect the empirical results, therefore the overall 48 responses were used for all other analyses of the experimental results. Also, follow-up phone calls were made to 40 non-respondents. The total 76 responses were analyzed as one group for other purposes of this study period. No claim is made for the ability of these methods to solve the possible non-response bias problem of this study, but these analyses indicate that the non-response problem might not have a significant effect.

    The two waves of responses were also used to test whether these waves had been drawn from the same population. The mean response of the overall attitude of CPAs toward the use of GAAP in CHSB were 4.77 and 4.76 for the first and the second wave, respectively. Findings for the distributions of the two waves on each perception (variable) were also similar. Thus, the findings were insignificant on each of the perceptions.

The follow-up phone calls were also used to find reasons for non-responding and whether the non-respondents had no strong feelings about the issue. Five CPAs were not available or were unable to answer even after the third call. Six CPAs adamantly refused to be interviewed by phone or any other technique. Twenty-nine CPAs (72 percent of the follow-up sub-sample) indicated that they did not return the questionnaire for several reasons. One reason that emerged was that a few CPAs were not ready to answer the first part of the questionnaire because it had been perceived as a threat or danger to their CPA firm (e.g., releasing too much information about their offices and the nature of their clients). These CPAs were, however, ready to answer the question on the overall attitude, the mean response being 4.66. Eighteen CPAs from this group completed responses to 11 major variables in the second part of the questionnaire. Five additional personal interviews were conducted with CPAs who did not participate in the original sample. The results of these follow-up interviews are not used in other sections of this paper, because the interviews were conducted a long time after the second wave of questionnaires were returned. The findings, however, were similar to those in the questionnaire, and we could not reject the hypothesis that different groups of CPAs responding to different stages in the study come from the same population. The Kruskal-Wallis test is used for differences between the first and the second waves as well as the follow-up calls and interviews. The Wilcoxon-Mann-Witney test were used to test for differences between waves on each variable. See L.A. Marascuilo and M. McSweeney, *Nonparametric and Distribution-Free Methods for the Social Sciences* (CA: Wardawroth en Brooks/Cole, 1977).

12. The attitude is determined by grading the statement on a measure scale; see, for example, R.Likert, "A Method for Constructing an Attitude Scale," in G.M. Maranell, *Scaling: A Source Book of Behavioral Scientists* (Chicago: Aldine, 1974) 233–243. The term attitude is defined as "the sum total of a man's inclination and feelings, prejudices, preconceived notions, ideas, fears, threats and convictions about a specific topic." An individual's attitude toward a subject can be measured and the simplest way to determine the attitude is to ask the individual about an object through expression or opinion. See L.L. Thurstone, "Attitude Can Be Measure," *American Journal of Sociology* (1928) 529–554.
13. The two-part questionnaire consists of background questions in Part I and major questions in Part II. In Part II there is one major question - the overall attitude - and nine explanatory questions, of which one is presented for informational purposes (see note 2 in Table 2). Three questions requested CPAs' perceptions toward benefits to owners, creditors, and potential investors: in particular, we are concerned with benefits to users from the entire financial statements report as a whole, adjustment to inflation, statements of changes in financial position and footnotes. However, only the benefits from the entire financial statements and the adjustment to inflation are considered in the analysis. None of the other composites have significant impact on the overall attitude of CPAs. Thus, the explanatory perceptions include 11 variables.
14. The empirical results are also presented in Table 3. The rationale for the tests is that they might indicate whether CAPs differed in their rankings across responses in the questionnaire (i.e., variables or perceptions). Also, such an analysis of the distribution of ranking across perceptions might indicate the relative information importance of certain perceptions (e.g., a perception such as inflation-adjusted information with a mean response of 5.29 might be considered more negative compared with another perception with a mean rank of 4.60 on the scale). The nonparametric approach was suggested by R. Barniv and A. Raveh, "Identifying Financial Distress: A New Nonparametric Approach," *The Journal of Business Finance and Accounting* (in press). For a general discussion on the use of qualitative variables, see G.J. Maddala, *Limited Dependent and Qualitative Variables in Econometrics* (Cambridge: Cambridge University Press, 1983).
15. A detailed discussion of conceptual issues related to multigroup classification techniques (including linear probability models and MDA) was provided by E.I. Altman, R.B. Avery, R.A. Eisenbeis and J.F. Sinkey, *Application of Classification Techniques in Business Banking and Finance* (CT: JAI Press, 1981).
16. Further discussion is available in various sources, e.g., P.A. Lachenbruch, *Discriminant Analysis* New York: Hafner, 1975).
17. H. Falk, B.C. Gobdel and J.H. Naus, "Disclosure for Closely Held Corporations,"; and J. Campbell, "An Application of Protocol Analysis to the Little GAAP Controversy."
18. See, e.g., D. Mosso, "Standard Overload – No Simple Solution."
19. O.M. Joy and J.O. Tellefson, "On the Financial Application of Discriminant Analysis," *Journal of Financial and Quantitative Analysis* (December 1975) 723–739; F. Mosteller and D. F. Wallace,

"Inference in the Authorship Problem," *Journal of the American Statistical Association* (1963) 275–305; E.I. Altman and R.A. Eisenbeis, "Financial Application of Discriminant Analysis: A Clarification," *Journal of Financial and Quantitative Analysis* (March 1978) 185–195; and E.L. Altman, R.B. Avery, R.A. Eisenbeis and J.F. Sinkey, *Application of Classification Techniques in Business, Banking and Finance.*

20. W. Zangwill, "Minimizing a Function Without Calculating Derivatives," *Computer Journal* (1967/68) 293–296.

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Book Reviews

Art and Accounting ***by Basil S. Yamey.*** *Yale University Press, New Haven, CT, 1989, 157 pp, ISBN 0–300–04227–2, $45.00.*

This book provides an analysis of selected works of art in which accounting books, such as journals and ledgers, appear. The organization of the book reflects the various categories of subject matter considered, including merchants, accountants, biblical scenes and allegories. The book consists of eight chapters:

Chapter 1: "Accounts Books in Works of Art"
Chapter 2: "Portraits of Business Men"
Chapter 3: "Bureau Scenes in Netherlandish Printing"
Chapter 4: "Bible Illustrations"
Chapter 5: "Allegories, Symbols and Emblems"
Chapter 6: "Still-Life Paintings"
Chapter 7: "Allegories of Commerce"
Chapter 8: "Double-Entry Bookkeeping, Luca Pacioli and Italian Renaissance Art."

The works of art presented and analyzed are all Western, of 1300–1800 primarily, and especially from the Golden Age of Dutch Art from 1500 to the 1700s.

Considerable research effort underlies the preparation of this book, which furnishes interpretations of many art pieces by critics, and is heavily footnoted with citations. The book is a most impressive and unique monograph. There is nothing like it in accounting literature.

A key problem underlying the analysis throughout the book is that often, as the author emphasizes, it is difficult to discern whether a work of art includes an accounting record or some other kind of book. As a result, one has to speculate considerably in many cases as to the particular books appearing in art works. Generally, the nature of the book must be inferred from the context of the painting or other work. In some cases, the ruling of the book appears to identify it as an account book. Nevertheless, account books have been, and remain to this day, quite diverse in nature.

Yamey offers a thorough description and commentary on many works of art. He raises three specific questions and, after considerable analysis, answers all of them negatively (p. 125):

(1) "did the system of double-entry bookkeeping serve as a major contributor to the economic advance of Europe from say, the fourteenth century onwards, and so help to create and enlarge the economic base upon which art could be sustained and developed?"

(2) "did the use by artists of that system (or any other system) of accounting reflect or reinforce new attitudes of artists towards their activity as creative artists?" and

(3) "did the use by Italian merchants of the double-entry system have some influence on Renaissance art in that it affected their way of looking at and seeing things?"

It is not clear whether art does reflect the influence of accounting on the development of the economies in which it was created, e.g., in Italy or the Netherlands. Nor can Yamey draw any reliable conclusions on the financial conditions of artists based on knowledge that various Italian painters in the sixteenth and seventeenth centuries maintained books of account.

The main issue underlying this book is whether accounting provided the financial underpinnings for the artistic achievements considered and was that why account books appear in these works of art (i.e., as a gesture of gratitude by artists to their business patrons), or whether the artists attempted to appeal to businessmen as prospective buyers of such art.

The account books found in the art works under study may well have symbolic meaning. They may add descriptive matter to the scenes in question, or may be simply incidental to those scenes. Perhaps mercantile economies have had a greater interest in account books than other economies. Account books were especially popular in Dutch paintings in the sixteenth and seventeenth centuries, and could possibly be a result of the mercantile background of the artists, i.e., they were often sons of merchants.

In the final chapter of the book, Yamey evaluates Luca Pacioli's links to the art world. Pacioli was acquainted with a number of Italian artists in the late 1400s, and some of his works are addressed to artists, among other parties. As a mathematician, he reportedly made calculations for Leonardo da Vinci, and da Vinci likewise prepared drawings for Pacioli.

In conclusion, the specific role of account books in historical works of art, based on Yamey's research, remains unclear. Whether such records were included in art to appeal to their patrons, to shed light on the scenes presented, or for other reasons is difficult to say. Nevertheless, this book represents a unique and enlightening contribution to accounting literature. In its attempt to combine two altogether different disciplines, it is a notable achievement. More books of this genre, perhaps music and accounting, would be most welcome.

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Global Accounting Perspectives ***by Jagdish Sheth and Abdolreza Eshghi, (eds.)*** *South Western Publishing Company, Cincinnati, 1989, 174pp,*
ISBN: 0–538–80338–X.

This book contains 12 chapters which are reprints of articles. It is one of a series of five such co-authored books concerning global financial, marketing, accounting, macroeconomics, and microeconomic perspectives. Neither of the two authors is an accounting professor as becomes evident in their Introduction where they refer to the FASB as the "Federation of Accounting Society." The criteria used for selecting the 12 articles for this volume are (1) they must be managerial in orientation and relevant to accounting practices, (2) they must be written by authors who are well recognized for their contributions to the field, and (3) they must represent a world-wide – rather than just the US perspective. The preface also proclaims that the volume is designed as a supplement to the text books on managerial accounting for the MBA program as well as the advanced undergraduate programs in business and is intended to fulfill the accreditation requirements for internationalizing the required courses in business schools.

The book is divided into four parts of three chapters each. Part I is entitled "The Environment of International Accounting." The chapters concern establishing financial accounting standards for international financial reporting. The articles selected, "Pragmatic and Academic Bases in International Accounting" by M.A. Quereshi, "The Development of International Accounting Standards: An Anthropological Perspective" by William J. Violet and "Accounting in the Arena of World Politics" by Lane A. Daley and Gerhard G. Mueller, are thought-provoking articles that provide significant insights into the problems and efforts involved in establishing international accounting and financial reporting standards. Though the articles were originally published in 1979, 1983, and 1982, respectively, and some updating might be necessary for classroom instruction, they serve as paradigms for the interplay of such environmental factors as business culture, business practices, external politics, and corporate objectives in influencing international accounting as mentioned in the book's Introduction.

Part II entitled "Managerial Accounting: Global Policies and Strategies" actually discusses financial reporting and financial management. Chapter 4, "Financial Accounting Standards: A Multinational Synthesis and Policy Framework" by Frederick D. S. Choi and Vinod B. Bavishi, is a continuation of Part I of the book. Chapter 5, "Translated Financial Statements can be Meaningful" by Thomas W. Hall and H. Jim Snavely, presents a theoretical alternative to the temporal principle (the SFAS No. 8 method) and the current-rate principle (the SFAS No. 52 method) for translation of foreign currency financial statements for consolidation with parent company statements. Obviously, a thorough understanding of foreign currency translation principles, usually taught in the advanced financial accounting course, is a prerequisite for comprehension of this chapter. Chapter 6 "Managing Multinational Exchange Risks" by James J. S. Yang, treats financial management, which is in the the realm of management accounting. The options mentioned are cash sales, credit sales, current sales with forward exchange contracts, and future sales with forward exchange contracts. In other words, the options for an exporter or importer are to manage the purchase or sale as one-transaction, as two-transactions, as a hedge of a foreign currency credit transaction, or as a hedge of a foreign currency commitment. This action introduces a sales risk factor to be considered together with the foreign exchange risk factor in importing and exporting. Certainly this is an excellent article for inclusion in an MBA or advanced undergraduate management accounting course.

Part III, "Managerial Accounting: Global Practices", focuses on global decisional issues of great significance to the international management accountant. Chapter 7, "The Effects of Foreign Operations on Domestic Auditor Selection" by John W. Eichenseher, finds empirical evidence to suggest that a strong relationship exists between foreign asset positions and domestic auditor selection. This topic is presently neglected even in domestic management accounting courses. Hopefully, its inclusion will influence the curriculum of the future. Chapter 8 "Why International Cost Accounting Practices Should be Harmonized" by Maureen H. Berry is, probably the most important article in the volume as it relates to the management accounting course. It should be essential reading for all, students and faculty, who want to expand their domestic management accounting knowledge. Knowledge of the cost accounting practices of the United Kingdom and West Germany as compared with US practices definitely enhances an understanding of cost accounting problems in any country, particularly the USA. The study centres on costing for government contracts; however, the topic is quite pervasive in management accounting practice. Though the topic of Chapter 9, "An International Study of Accounting Practices in Divisionalized Companies and Their Associations with Organizational Variables" by Robert W. Scapens and J. Timothy Sale, is not quite as explicitly presented, it presents another important management accounting topic. The chapter reports the results of a questionnaire study of divisional performance measurements used by 205 US and 211 UK multinational corporations.

The book emphasizes financial accounting in Part IV, "Managerial Accounting: Global Practices of Foreign Currency Translation." Chapter 10, "Translations of Foreign Currency Operations: SFAS No. 52" by Richard E. Veazey and Suk H. Kim, compares the provisions of SFAS No. 8(the temporal principle) and SFAS No. 52 (the current-rate principle). The article is explanatory in nature. Chapter 11, "SFAS No. 52: Expediency or Principle" by James A. Largay III continues the explanation and further delineates the accomplishments of SFAS No. 52 as to consistency with decision-oriented financial reporting, congruence of accounting exposure with economic exposure, and hedging. Chapter 12, "The Impact of Foreign Currency Translation on Reporting During the Phase-In of SFAS No. 52" by James J. Benjamin, Steven D. Grossman, and Casper E. Wiggins, present the results of a study of 193 companies that changed foreign currency translation principles through the implementation of SFAS No. 52 during the three-year period, 1981-83. The chapter reports the impact of the change in principle on selected financial ratios during that period.

An annotated bibliography is appended, divided into four parts paralleling the four parts of the book. The listings under Part III: Managerial Accounting deserve the attention of the instructor planning to utilize this book for its intended purpose as a supplement to an MBA management accounting course or an advanced undergraduate management accounting course. However, the second purpose, to fulfill the accreditation requirements for internationalizing the required courses in business schools, may be just as important, particularly if this book were to be used (1) as a supplement for a two-course sequence, namely, a financial accounting course and a management accounting course in the MBA program, (2) for an advanced management accounting course with an advanced financial theory course for the undergraduate, (3) or perhaps in the fifth-year of the 150-hour accounting program.

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Author Index to Volume 24

Subject Index to Volume 24

INSTRUCTIONS FOR AUTHORS

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[1] William A. Dymsza, Multinational Business Strategy (New York: McGraw-Hill, 1972), 49-53.
[2] Geoffrey Holmes, "Replacement Value Accounting." Accountancy (March 1972), 4-8.

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American Institute of Certified Public Accountants. Accounting Research Bulletin No. 43. New York: AICPA, 1953.
__________. "Financial Statements Restated for General Price Level Changes." Statement of the Accounting Principles Board No. 3. New York: AICPA, 1969.
Lorenson, Leonard and Paul Rosenfield. "Management Information and Foreign Inflation." Journal of Accountancy, December 1974, 98-102.
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